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What is known and what is still unknown within chronic musculoskeletal pain? A systematic evidence and gap map

Kristian D. Lyng[1,2], Chris Djurtoft[2], Malene K. Bruun[2], Mads N. Christensen[2], Rikke E. Lauritsen[3], Jesper B. Larsen[1], Kathryn A. Birnie [4-6], Jennifer Stinson[7-9], Morten S. Hoegh[1], Thorvaldur S. Palsson[1,10], Anne E. Olesen[11,12], Lars Arendt-Nielsen[13,14], Lars H. Ehlers[15,16], Kirsten Fonager[11,17], Martin B. Jensen[2], Hanne Würtzen[18], Patricia A. Poulin[19-21], Gitte Handberg[22,23], Connie Ziegler[24], Lars B. Moeller[25], Judi Olsen[26], Lotte Heise[27], Michael S. Rathleff[1,2].

[1]Department of Health Science and Technology, Faculty of Medicine, Aalborg University, Denmark

[2]Center for General Practice at Aalborg University, Department of Clinical Medicine, Aalborg University

[3] Interdisciplinary Orthopaedics, Aalborg University Hospital

[4]Department of Anesthesiology, Perioperative, and Pain Medicine, University of Calgary, Calgary, Alberta, Canada.

[5]Department of Community Health Sciences, University of Calgary, Calgary, Alberta, Canada.

[6]Alberta Children's Hospital Research Institute, Calgary, Alberta, Canada.

[7]Child Health Evaluation Sciences, The Hospital for Sick Children, Toronto, Ontario, Canada

[8]Department of Anesthesia and Pain Medicine, The Hospital for Sick Children, Toronto, Ontario, Canada

[9]Lawrence S. Bloomberg Faculty of Nursing, University of Toronto, Toronto, Ontario, Canada.

[10]Department of Physiotherapy and Occupational Therapy, Aalborg University hospital, Aalborg, Denmark

[11]Department of Clinical Medicine, Faculty of Medicine, Aalborg University, Aalborg, Denmark

[12]Department of Clinical Pharmacology, Aalborg University Hospital, Aalborg, Denmark

[13]Center for Neuroplasticity and Pain (CNAP), SMI, Department of Health Science and Technology, Faculty of Medicine, Aalborg University, Aalborg, Denmark

[14]Department of Medical Gastroenterology, Mech-Sense, Aalborg University Hospital.

[15]Danish Center for Clinical Health Services Research (DACS), Department of Clinical Medicine, Aalborg University, Aalborg,

[16]Denmark & Nordic Institute of Health Economics, Aarhus, Denmark

[17]Department of Social Medicine, Aalborg University Hospital, Aalborg, Denmark

[18]Department of Neuroanaesthesiology, The Multidisciplinary Pain Centre, Rigshospitalet, Copenhagen, Denmark

[19]Department of Psychology, The Ottawa Hospital, Ottawa, Ontario, Canada.

[20]Clinical Epidemiology Program, The Ottawa Hospital Research Institute, Ottawa, Ontario, Canada.

[21]Department of Anesthesiology and Pain Medicine, University of Ottawa, Ottawa, Ontario, Canada

[22]Pain Research Group, Pain Center, Odense University Hospital, Odense, Denmark.

[23]Pain Center, Odense University Hospital, Odense, Denmark.

[24]Gigtforeningen/Danish Rheumatism Association, Denmark.

[25]Foreningen af Kroniske Smerteramte og Pårørende (FAKS)/The Association for Chronic Pain Patients and Relatives, Denmark

[26] Fibromyalgi & Smerteforeningen/ the Danish Fibromyalgia & Pain Association, Denmark

[27]Danish Broadcasting Corporation, Denmark.

Corresponding Author Kristian Damgaard Lyng, Aalborg University, Fredrik Bajers Vej 7E, 9220 Aalborg East, Denmark, E-mail: klyng@dcm.aau.dk

Evidence and gap maps (EGM) can be used to identify gaps within specific research areas and help guide future research agendas and directions. Currently, there are no EGMs within the broad domain of chronic musculoskeletal (MSK) pain in adults. The aim of this study was to create a contemporary EGM of interventions and outcomes used for research investigating chronic MSK pain. This EGM was based on systematic reviews of interventions published in scientific journals within the last 20 years. Embase, PubMed, the Cochrane Library, and PsycINFO were used to retrieve studies for inclusion. The quality of the included reviews was assessed using AMSTAR-II. Interventions were categorised as either physical, psychological, pharmacological, education/advice, interdisciplinary, or other. Outcomes were categorised using the Initiative on Methods, Measurement, and Pain Assessment in Clinical Trials (IMMPACT) recommendations. Of 4299 systematic reviews, 457 were included. Of these, 50% were rated critically low quality, 25% low quality, 10% moderate quality and 15% were rated high quality. Physical interventions (e.g., exercise therapy) and education were the most common interventions reported in 80% and 20% of the studies, respectively. Pain (97%) and physical functioning (87%) were the most reported outcomes in the systematic reviews. Few systematic reviews used interdisciplinary interventions (3%) and economic-related outcomes (2%). This contemporary EGM revealed a low proportion of high-quality evidence within chronic musculoskeletal (MSK) pain. This EGM clearly

outlines the lack of high-quality research and the need for increased focus on interventions encompassing the entire biopsychosocial perspective.

Keywords: musculoskeletal pain; participatory research; evidence and gap map; adults

Introduction

An evidence and gap map (EGM) is a method providing a contemporary overview of health-related evidence [22,34]. The method allows for systematic overviews of large research areas which can be used to identify gaps in existing research and assess the quality of research [40]. Such systematic overviews (maps of research) can inform research and strategic research investments to target the areas with the largest evidence gaps or the areas with the lowest quality of evidence [30]. Similarly, these overviews can inform researchers and funders where more evidence is *not* needed [11,35]. One of the areas where the amount of research has increased exponentially, and overviews are needed is within the management of chronic musculoskeletal (MSK) pain.

Chronic MSK pain (defined as persistent pain for more than three months affecting bone, joint, muscle, and/or related soft tissue) is ranked among the top 20 diseases contributing most to the global burden of disease [7,24,28,38]. The broad definition of chronic MSK pain results in a heterogeneous group of patients with disorders ranging from low to very high in complexity. This results in a range of negative consequences for people living with chronic MSK pain as well as their families [6,23,25,37]. The societal and healthcare burden of chronic MSK pain is enormous and amounts to 2% of the gross domestic product in European countries [2]. Despite large research investments within this field, we still lack effective management strategies that can provide long-term benefits for people living with chronic MSK pain [12].

This large production of knowledge makes it difficult to keep up and understand where to focus research efforts (i.e., where do we need more knowledge?) and where to focus implementation efforts (i.e., where do we have knowledge on effective treatments that have not yet been implemented?). To accommodate this, EGMs have previously been used to provide policymakers with a shortcut of synthesised knowledge within a certain area (e.g., treatments for pediatric chronic pain) and furthermore, to support funding and research priorities [4,5,29,36].

By mapping the current evidence and appraising the literature, an EGM within chronic MSK pain is an important step in informing and improving future research. Therefore, this study aimed to create a contemporary EGM of systematic reviews of randomised control trials investigating the management of chronic MSK pain in adults.

Methods

This EGM is based on a systematic search of the literature and adheres to the PRISMA reporting guidelines for systematic reviews (12). A study protocol was registered on the Open Science Framework in January 2021 (DOI: 10.17605/OSF.IO/3TQXH). Two revisions were made after the original registration. The first revision was made to clarify the data extraction outcomes and was specified to include outcomes not only restricted to pain (e.g., the IMMPACT recommendations). The second revision was made only to include systematic reviews that were based on at least three relevant randomised control studies (RCT). We followed the Campbell Collaboration for the methodology of EGMs by using a structure including the following steps [40]: development of scope, in/exclusion criteria, systematic

review of the literature, extraction of data, analysis, and visualization [19,30,35]. Data will be available for further analysis by contacting the authors.

Deviations from Protocol and Pre-registration

To accommodate the workload of the high number of included reviews for this EGM, two new authors were invited to join the research group (CD and MKB). To reduce the number of included reviews, we changed the number of included RCTs needed for inclusion from a minimum of two to a minimum of three RCTs. We planned on complementing our literature search with citation tracking which was not deemed necessary because of the high number (more than 450) of included systematic reviews.

Eligibility Criteria

Systematic reviews were eligible for inclusion if they met the following criteria:

1) Any type of peer-reviewed published systematic review concerning management of chronic MSK pain (i.e., not including pelvic pain, chronic primary headache or orofacial pain and chronic primary visceral pain);
2) Published in English;
3) Focused on adults or reported separate findings from adult studies;
4) Based on at least three randomised studies focusing on any intervention for chronic MSK pain (defined as pain lasting at least three months or longer and/or pain described as “chronic,” “recurrent,” or “persistent”); and
5) Reports on at least one outcome of chronic musculoskeletal pain formulated by the IMMPACT recommendations or quality of life, sleep, work-related outcomes, or economic factors

We excluded studies which were not based on a systematic search and synthesis (e.g., narrative reviews, scoping reviews, editorials, and cross-sectional studies), non-human research, studies focusing solely on children (under the age of 18), systematic reviews investigating chronic secondary musculoskeletal pain (i.e., chronic pain in bones, joint and tendons arising from an underlying disease classified elsewhere (8)), studies only focusing on chronic MSK pain diagnosis, assessment, or prevalence, and studies published more than 20 years ago. If multiple versions of the same systematic review were identified, we only included the most recently published version. During the process of generating data for this EGM, a new MSK pain condition appeared in the literature, i.e., long COVID (SARS-CoV-2) MSK pain [10]. At this stage, it is not known if this is a condition which will persist for many years and hence long COVID MSK pain was not included.

Search Strategy

We developed a highly sensitive search together with an experienced research librarian. The literature search included medical subject headings (e.g., MeSH in PubMed and Emtree in EMBase) and text words related to chronic MSK pain (see search in appendix 1). We conducted the search in the following databases: EMBase via OVID, Medline via PubMed, the Cochrane Library, and PsycINFO**.**

Study Selection

All citations from the literature search were imported into Covidence (Covidence systematic review software, Veritas Health Innovation, Melbourne, Australia. Available at www.covidence.org). Duplicates were removed using Covidence and Endnote, and through a manual screening. Citations were kept in Covidence, and the subsequent screening and data

extraction were completed using Covidence. Three authors (KDL, MNC, and REL) independently screened the titles and abstracts of the reviews. A fourth author (MSR) was available to resolve any conflicts. Full-text reviews were screened independently by three authors (KDL, MNC, and REL) to assess the final inclusion into the review. Disagreements were solved through consensus with a fourth author (MSR).

Data Collection

We extracted data using Covidence and used standardised data extraction forms. The senior author (MSR) instructed KDL, CD, MKB and MNC in extracting data and several papers were piloted until consensus between all extracting authors and MSR were reached. The items extracted from each study included: title, main author, publication year, journal, country, population, primary objective, setting, inclusion/exclusion criteria, date of literature search, meta-analysis, types of included reviews, number of RCTs included, source of financial support, conflict of interest, type of intervention, control groups, outcomes, and timing of outcome assessments.

Risk of Bias

The 16-item AMSTAR-2 critical appraisal tool was used to assess the included systematic reviews [32]. The appraisal tool included seven critical domains including: pre-registration of protocol, adequacy of the literature search, justification of excluded studies, risk of bias analysis from included studies, the appropriateness of meta-analysis methods (if used), the role of risk of bias in the interpretation of the results (including financial support and conflict of interest) and the lastly the impact of publication bias. Quality assessments were performed independently by KDL, CD, and MKB. All papers were double-checked for agreement by KDL. Disagreements were resolved at a consensus meeting with MSR. Each included

systematic review was summarized using a quality rating as a reflective measure for the strength of the results obtained from the review. This score was established based on the criteria used in Birnie et. al. 2020 [4]:

1) **High**: No or one non-critical weakness; the systematic review provided an accurate and comprehensive summary of the results of the available reviews that addressed the question of interest.
2) **Moderate**: More than one non-critical weakness; the systematic review had more than one weakness but no critical flaws. It may have provided an accurate summary of the results of the available reviews that were included in the review.
3) **Low**: One critical flaw with or without non-critical weaknesses; the systematic review had a critical flaw and may not have provided an accurate and comprehensive summary of the available reviews that addressed the question of interest.
4) **Critically Low:** More than one critical flaw with or without non-critical weaknesses; the systematic review had more than one critical flaw and should not be relied on to provide an accurate and comprehensive summary of the available reviews.

Data Synthesis

Findings from the systematic reviews were summarised through a narrative synthesis describing the settings, populations, interventions, controls, outcomes, and the timing of outcomes (See Table 1 for description). The findings were used to create a tabular view and pie-charts of the evidence and potential gaps, which were used to establish *absolute gaps* (areas with little to no evidence) and *synthesis gaps* (areas with poor quality evidence). The population was categorised into the following pain categories: foot/ankle, knee, hip/groin, back (thoracic, lumbar, and sacral), neck, shoulder, elbow, wrist/hand, widespread pain (e.g.,

fibromyalgia), complex regional pain syndrome, and other pain types. The specific diagnosis was registered if available. Intervention groups were categorised into the following: physical (e.g., exercise, surgery, needling), psychological (e.g., cognitive behavioural therapy, acceptance, and commitment therapy), pharmacological (e.g., paracetamol, non-steroidal anti-inflammatory drugs, gabapentin), education/advice, interdisciplinary, and other intervention groups, similar to terminology described by Birnie et al. [4]. Control groups were categorised into the following: physical, psychological, pharmacological, interdisciplinary, education/advice, inactive (e.g., rest or wait-and-see), placebo/sham, or other control groups. Outcomes were categorised based on the Initiative on Methods, Measurement, and Pain Assessment in Clinical Trials (IMMPACT) recommendations into the following [39]: pain, physical functioning, emotional functioning, participant ratings of improvement, satisfaction with treatment, symptoms, adverse events, and participant disposition (e.g., adherence to the treatment regimen and reasons for premature withdrawal from the trial). Furthermore, measures of quality of life, work-related, sleep-related, and economic outcomes, and others were added to the list of possible outcomes. Lastly, the timing of outcomes was categorised into the following: 0-3 months, 3-6 months, 6-12 months, above 12 months. Source of funding and conflicts of interest were reported and extracted for the risk of bias assessment, but not otherwise used in the analysis.

INSERT TABLE 1 HERE: LEGEND: Description of Population, Intervention, Control, Outcomes and Timing

Results

From the database searches, 5586 records were identified. Duplicates were removed (n = 126), leaving 5460 records for screening. Through title and abstract screening, 4299 records

were excluded, and 1161 records were available for full-text screening. Of these, 704 were deemed ineligible, leaving 457 unique reviews to be included for further data extraction and analysis (PRISMA flowchart can be seen in Figure 1). Meta-analyses were used in 63% of the included reviews. For a detailed description of the included systematic reviews, see Appendix 2: Study characteristics. The overall EGM can be seen in Figure 2.

INSERT FIGURE 1 HERE

Setting

The included reviews contained several different settings. However, 58% (n = 267) of the included reviews lacked a clear description of the setting. The settings most often described were outpatient clinics (31%, n = 142), primary care (20%, n = 94), hospital (19%, n = 85), community (8%, n = 34) and lastly, 3% were categorised as other settings (n = 14) including specialised care centres, local clubs, and workplace.

Population

Back pain was the most frequently investigated painful condition with 55.5% (n = 254) followed by knee pain with 22% (n = 101), widespread pain with 17% (n = 76), neck pain with 14% (n = 65), foot or ankle pain with 8% (n = 38), shoulder pain with 8% (n = 34), hip pain with 5.5% (n = 25), elbow pain with 4% (n = 20), hand or wrist pain with 2% (n = 8), and complex regional pain syndrome with 1% (n = 3).

Interventions

The most frequently used intervention was physical intervention with 81% (n = 372) followed by education/advice with 20% (n = 93), pharmacological with 15% (n = 73),

psychological with 11% (n = 50), other (e.g., nutritional) with 4% (n = 19) and interdisciplinary with 3% (n = 13).

Control

The most frequently used control condition was physical intervention with 73% (n = 334) followed by placebo/sham with 61% (n = 281), education/advice with 34% (n = 155), inactive with 32% (n = 145), pharmacological with 21% (n = 96), psychological with 3% (n = 14), other (e.g., nutritional) with 2% (n = 15), and interdisciplinary with 0.2% (n = 1).

Outcomes

The most frequently reported outcome measure was pain intensity with 97% (n = 446) followed by physical functioning with 87% (n = 399), quality of life with 39% (n = 182), emotional functioning with 27% (n = 124), symptoms and adverse events with 26% (n = 121), participants rating of improvement with 22% (n = 101), other with 15% (n = 70), work-related with 13% (n = 64), sleep-related with 8% (n = 38), participant disposition with 5% (n = 21), and economic factors with 2% (n = 9). See outcomes used in individual studies (Appendix 3).

Timing of outcomes

In terms of length of follow-up, most outcomes were reported between 0-3 months with 91% (n = 416), followed by 3-6 months with 75% (n = 354), 6-12 months with 60% (n = 275), and above 12 months with 28% (n = 128). See timing of outcomes used in individual studies (Appendix 3).

Quality assessment

Of the 457 reviews included, 41.4% were rated as critical low quality (n = 188), followed by 31.7% of low quality (n = 145), 10.3% were rated as moderate quality (n = 47), and lastly 16.9% were rated as high quality (n = 77). The most common reason for being downgraded was not having a pre-registered protocol, failing to describe the sources of funding in included reviews, and not providing a satisfactory explanation of the heterogeneity across included reviews. A full overview of the AMSTAR-2 quality rating can be seen in Appendix 2. Distribution of the evidence quality across interventions can be seen in figure 3.

INSERT FIGURE 2 HERE

INSERT FIGURE 3 HERE

Discussion

This EGM with 457 unique systematic reviews found an overall low quality of systematic reviews pointing towards both synthesis gaps (areas with poor quality evidence) as well as absolute gaps (areas with little or no evidence). The absolute gaps were most clear for long-term outcomes (above 12 months) and non-pain related outcomes (such as participant disposition). The most common interventions were physical (e.g., exercise therapy), while the lowest number of systematic reviews investigated interdisciplinary care programs.

Explanation of findings

During the past 20 years, research has demonstrated that chronic MSK pain cannot be explained simply because of tissue damage (16). Despite this strong shift towards a multidimensional understanding of chronic MSK pain, a high proportion of interventions in

the included systematic reviews had a biomedical focus (e.g., exercises or pharmacological interventions), whereas multidisciplinary and psychological interventions had a very low representation. This is of concern as international organisations such as The International Association for the Study of Pain (IASP) strongly advocate for a multidisciplinary approach to chronic pain management [14]. The interpretation of evidence is challenged by very heterogenous control groups, whereas in pharmacological trials, placebo and sham groups are traditionally used. This is important as it controls for non-specific effects, thus providing a better estimate of the true benefit of a drug. However, in the trials using physical interventions, the control groups were much more diverse, including other surgeries, exercise-types, manual therapy, and various forms of acupuncture. This is a challenge when comparing the different treatment classes included in our EGM. Most of the included systematic reviews used short follow-up periods (0-3 months), and only a small number used long-term follow-up (+12 months). Research has highlighted that most people living with chronic MSK pain conditions experience fluctuating and recurrent pain, highlighting the need to measure the long-term effects of treatment [1,8]. The lack of systematic reviews including long-term follow-up above 12 months may also be due to the challenge in retaining people in trials for more than a year, thus reducing the number of original trials suitable for such analyses.

Outcomes

Unsurprisingly, pain and physical functioning were the most used outcomes in almost all included systematic reviews. Despite the IMMPACT core outcome set having existed since 2003, only the minority of systematic reviews included emotional functioning, participant ratings of global improvement, symptoms, adverse events, and participant disposition. Chronic MSK patients have high healthcare use, lower work ability, and low quality of life.

Therefore, it is surprising that only 2% of the included systematic reviews assessed the economic impact of the interventions being examined. As the healthcare resources are limited, it is of the utmost importance to understand the cost-effectiveness of the interventions as this is pivotal knowledge before implementing new treatments into routine clinical care. Similarly, it is important to understand the risks associated with the interventions being implemented. Adverse events describe unexpected medical problems that occur during treatment, but these were only reported in 26% of the included reviews [31]. Knowledge on adverse events is a key consideration that needs to be discussed with patients before recommending a certain management strategy. This issue was also raised by Howick et al. who surveyed health interventions examined by Cochrane and found that benefits were more often reported or tested compared to harm [12]. As highlighted by Shaheed et al., (25) non-pharmacological interventions often lack reporting on adverse events which makes it difficult to assess the 'true' effectiveness of these interventions. Finally, Karran et al. (2020) highlighted the association with social disparities in lower back pain outcomes and interventions suited to target these may improve outcomes related to reducing health inequities [17]. Therefore, it is crucial for future studies within all types of interventions to appropriately collect and report information regarding sociological factors and adverse events. Additionally, it is important for future studies to evaluate interventions through economic lenses using health economic evaluation frameworks such as the Consolidated Health Economic Evaluation Reporting Standards (CHEERS) [13]. The absence of reporting other relevant outcomes in reviews neglects the possibility of interventions being successful within domains other than pain and physical functioning.

Comparison with other Evidence and Gap Maps

Recently, two similar EGMs within paediatric chronic pain [4,5] demonstrated that most systematic reviews examined the effect of psychological interventions and only 15% of the included systematic reviews tested physical interventions [4]. In this EGM, 81% of all interventions were physical and only 11% were psychological interventions. One might speculate that this difference may arise from the difference in professions managing the conditions; with psychologists often being involved in management of children with long-standing pain, whereas physiotherapists, surgeons, and rheumatologists are more commonly involved in treating chronic musculoskeletal pain in adults. In Birnie et al. (2020), one third of the included reviews were rated high quality (34%) whereas the current study only found 16.9% of the studies included to be of high quality, indicating an overall lower quality of systematic reviews within research in adults living with chronic MSK pain. One of the explanations for the overall low quality of the evidence may be the inclusion of literature from the past 20 years. Reviews published in the early 2000's were conducted when it was not yet recommended to prospectively register systematic reviews. Additionally, no sources were available to assist the reporting such as the PRISMA reporting guidelines for both protocols and final reports. These factors may partially explain the varying quality of systematic reviews within this area.

Comparison to priority setting partnerships

Involvement of stakeholders within research on their own conditions has increasingly gained favour through the last decade. Stakeholder involvement can be performed in many ways, with various degrees of involvement, and in different steps of the research cycle. Recently, research priorities were captured from over 1,000 people living with chronic MSK pain, their relatives, and healthcare practitioners [20]. The results highlighted the need for increased attention towards improvement of chronic MSK pain management education expressed both

by the people suffering from pain and the relevant healthcare practitioners. Interestingly, 20% of the studies in the EGM used an educational intervention. Hence, this warrants further investigation into the components needing more research to match the need for improved knowledge on the condition. Similar priorities have been seen in paediatric chronic pain research and general chronic pain care [3,33]. The least used intervention in our study was the interdisciplinary intervention. From previous priority setting partnership studies it is known that an increased focus on improving interdisciplinary care is warranted across both the broad domain of chronic MSK pain, common hand and wrist conditions, fractures of the lower limb, and knee arthroplasty [9,16,21]. Previously, a comparison between the priorities set by the important stakeholders and the existing evidence has been conducted [4]. Hopefully, researchers within this field can benefit from comparing the existing literature mapped in this EGM and priority setting partnerships to increase the relevancy of their research and ultimately, improve the future care for people living with chronic MSK pain.

Limitations

A potential limitation in this EGM is the search strategy. For pragmatic reasons, we were unable to tailor our search strategy to each specific site and the accompanying diagnoses across all musculoskeletal disorders, which may mean that we missed specific conditions. Similarly, we restricted our inclusion criteria to include only systematic reviews covering three or more RCTs and discarded citation tracking. This may have excluded systematic reviews based on a small number of trials and potentially also other relevant systematic reviews although it is unlikely that this would have changed our overall conclusions. Furthermore, some of the interventions may have been categorised in multiple categories (e.g., injectional therapies), which might have influenced the distribution of the EGM. Future EGMs might benefit from a more detailed categorisation of interventions and control groups,

as a more detailed description would provide researchers with more guidance on where to focus their research. Settings can be categorised differently across countries, thereby influencing the categorisation of settings in this study. However, most of the studies included in the EGM did not describe the settings adequately. These discrepancies warrant increased focus on aligning the description of settings across countries and ensuring that future studies describe the settings in detail.

Implications

Comparing the findings from this study with existing priority setting partnership studies highlighted the limitations of traditional systematic reviews as many research questions require alternative methods to be assessed. Furthermore, considering the contrasts between our priority setting partnership study [20] and this EGM, we suggest that future research prioritizes mission-oriented strategies that link activities and objectives between all stakeholders and take advantage of the interplay between these organizations to ensure relevant populations, interventions and outcomes are included [15]. Potentially, a more patient-centred approach to how we conduct our research can move our field to the better and facilitate high-value care. Future reviews may need to think outside the traditions of systematic reviews with meta-analyses and turn towards methods embracing complexity and more open-scoped research questions, such as mixed-methods studies or realist reviews aiming to explain what works for whom, under what circumstances, and how [18,26,27]. Finally, future studies need to adhere more to existing reporting guidelines in terms of describing intervention used. Greater clarity in terms of the description of the intervention will help both researchers and clinicians in interpretating the effectiveness of the respective intervention and increase the likelihood of successful implementation into clinical practice.

Conclusion

This contemporary EGM of management strategies for people living with chronic MSK pain emphasises the current low proportion of high-quality systematic reviews. The EGM provides guidance to future research with knowledge on the evidence and gaps within the field of chronic MSK pain. From this study, it was evident that most of the included reviews focused on physical interventions and pain intensity as the outcomes for the management of chronic MSK pain. The results from this study highlight that more high-quality research is warranted and that specific attention to pharmacological, psychological, and interdisciplinary interventions is needed. Lastly, future research should consider using other outcomes such as symptoms, adverse events, participant rating of improvement, participant disposition, and work, sleep, and economic-related outcomes.

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Conflicts of interest and source of funding

MSH has received support from non-industrial professional, private, and scientific bodies (reimbursement of travel costs and speaker fees) for lectures on pain, and he receives book royalties from Gyldendal, Munksgaard Denmark, FADL, and Muusmann publications. Otherwise, none of the authors declare conflicts of interest.

Contributions

KDL and MSR drafted the first version of the protocol. All authors, except CD and MKB, contributed to the conception and design, including decisions of the primary and secondary

outcomes, and provided critical scientific input to the protocol. KDL, REK, and an experienced research librarian developed the search strategy for this study. KDL, CD, MKB, MNC, and REL conducted the screening and data extraction process. KDL, CD, MKB, and MSR performed the data analysis. All authors provided substantial input and feedback to the manuscript and approved the final version of the manuscript.

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Figure legends

Figure 1: PRISMA Flowchart. PRISMA flowchart showing the screening and selection process for the systematic search with exclusion reasons provided.

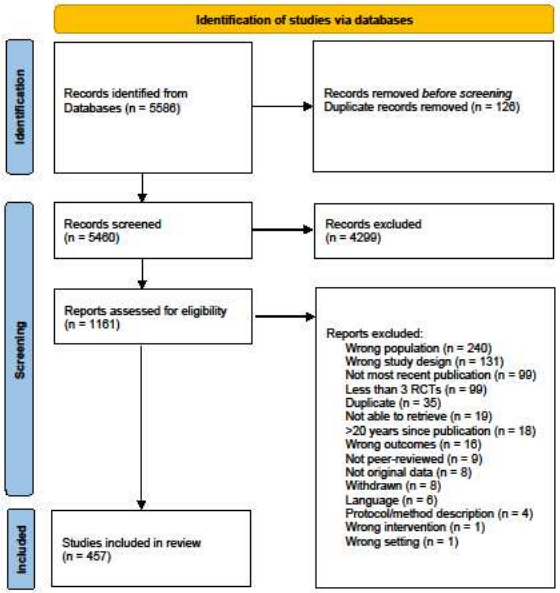

Identification of studies via databases
Identification
Records identified from
Databases (n = 5586)
Records removed *before screening*
Duplicate records removed (n = 126)
Screening
Records screened
(n = 5460)
Records excluded
(n = 4299)
Reports assessed for eligibility
(n = 1161)
Reports excluded:
Wrong population (n = 240)
Wrong study design (n = 131)
Not most recent publication (n = 99)
Less than 3 RCTs (n = 99)
Duplicate (n = 35)
Not able to retrieve (n = 19)
>20 years since publication (n = 18)
Wrong outcomes (n = 16)
Not peer-reviewed (n = 9)
Not original data (n = 8)
Withdrawn (n = 8)
Language (n = 6)
Protocol/method description (n = 4)
Wrong intervention (n = 1)
Wrong setting (n = 1)
Included
Studies included in review
(n = 457)

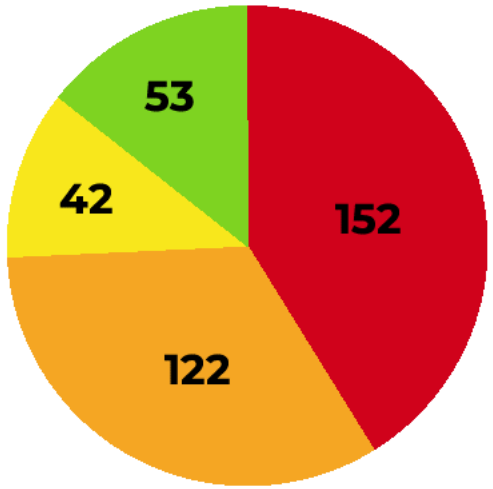
Figure 2: Mapping interventions for chronic musculoskeletal pain

Evidence and gap map showing interventions for chronic musculoskeletal pain overall. Types of interventions are listed within the rows, and IMMPACT- outcome domains are listed in the columns. The size of the circles indicates a higher or lower number of systematic reviews. Number in circles indicates number of systematic reviews identified. A lack of systematic reviews of any quality results in missing circles in the corresponding fields.


Pain
Physical
Emotion
Improvement
Symptoms
Disposition
Quality of life
Work
Sleep
Economic
Physical
Psychological
Pharmacological
Education
Interdisciplinary
= Critically low quality
= Low quality
= Moderate quality
= High quality

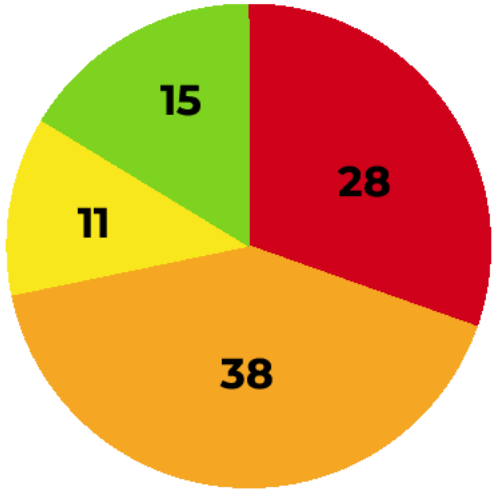
Figure 3: Distribution of evidence quality across intervention categories. Distribution (%, percentage) of the evidence quality across intervention categories. Numbers in circles refers to number of papers within each category within each intervention. Red colour indicated critically low quality, orange colour indicates low quality, yellow colour indicates moderate quality and green colour indicates high quality.

Physical interventions



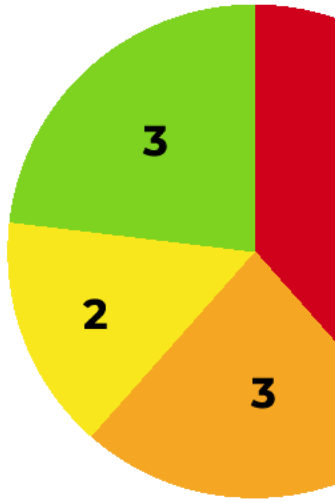
Critical Low (41.19%) Low (33.06%)
Moderate (11.38%) High (14.36%)

Education or advice interventions



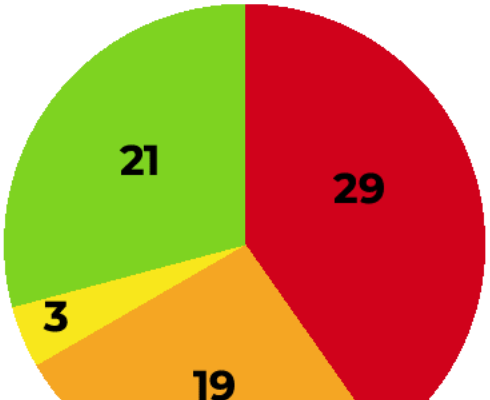
Critical Low (30.43%) Low (41.3%)
Moderate (11.96%) High (16.3%)

Interdisciplinary in

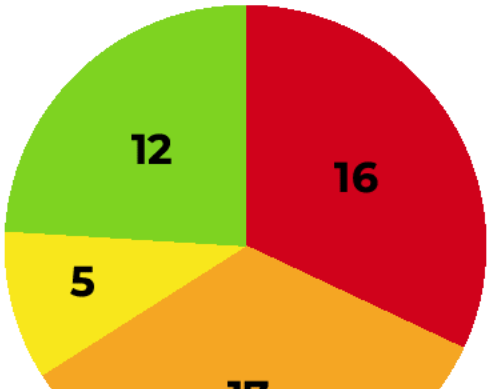


Critical Low (38.46%)
Moderate (15.38%)

Pharmacological interventions



Psychological interventions



Other interve