

RESEARCH ARTICLE

Swedish musculoskeletal researchers view on a collaborative network and future research priorities in Swedish healthcare

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Abstract

Background: Musculoskeletal disorders (MSK) are a global burden causing significant suffering and economic impact. Systematic identification and targeting of research questions of highest interest for stakeholders can aid in improving MSK disorder knowledge and management.

Objective: To obtain Swedish MSK researchers' opinions and views on a collaborative Swedish MSK network (SweMSK) and identify future research areas of importance for Swedish MSK research.

Methods: A web-based survey was conducted July to September 2021 to collect data from 354 Swedish MSK researchers. The survey focused on the need, objectives, and structure of a SweMSK network and identified prioritised areas for future MSK research.

Results: The study included 141 respondents, of which 82 were associate professors or professors. The majority (68%) supported the creation of a new musculoskeletal network. The most supported element was increased collaboration regarding nationwide and multicenter studies. Respondents recommended the creation of a homepage and the establishment of national work groups with different specific interests as the primary elements of a new network.

Conclusion: The results demonstrated a need and desire for increased national research collaboration and the creation of a new musculoskeletal network. The high academic experience and active research participation of the respondents suggest the need for MSK disorder knowledge and management improvement in Sweden. Therefore, the SweMSK network may help facilitate effective collaboration and research efforts that can contribute to the advancement of MSK disorder management and care. This study may provide valuable insights for policymakers, clinicians, and researchers to improve MSK disorder care and management in Sweden.

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KEYWORDS

clinical study, musculoskeletal, network, pain, researcher, survey

1 | INTRODUCTION

Musculoskeletal disorders (MSK) are a leading cause of disability worldwide (GBD, 2017). Among 328 diseases, five MSK-related disorders were ranked within the top 12 diseases causing years lived with disability (GBD, 2017). MSK-related disorders are associated with increased prevalence of pain, mental health disorders, muscle and bone mass loss, obesity, insulin resistance, risk of falls and fracture, and longer rehabilitation following injury or surgery (Duffield et al., 2017). Despite the burden of MSK-related disorders, there is a mismatch between the burden of specific MSK-related disorders and investments in research targeting these areas, such as osteoarthritis, rheumatoid arthritis, osteoporosis, and back pain (Jacobs et al., 2013). The US Bone and Joint Initiative has urged for an increase in research funding, and a similar mismatch in terms of disease burden and funding has been reported in Australia (Bourne et al., 2014; Buchbinder et al., 2015). In order to improve MSK-related healthcare and research, key points that have been identified include funding of musculoskeletal research that matches the burden of the condition, evidence relating to interventions, and a coordinated approach to clinical research (Bourne et al., 2014).

Research on MSK disorders should aim to answer questions that are of utmost relevance to stakeholders involved in Swedish healthcare, including consumers of healthcare and the general public, health practitioners, policy makers and healthcare managers, and research funders. Research questions should arise from multiple sources and stakeholders, as it is likely that no single source would produce all the research questions of importance (Bourne et al., 2014; Buchbinder et al., 2020). This study aimed to obtain Swedish MSK researchers' opinions and views on a collaborative Swedish MSK network (SweMSK) and to identify future research areas of importance for Swedish MSK researchers.

2 | MATERIALS AND METHODS

2.1 | Study design and sampling

This national collaborative network study utilised a web-survey to gather data from researchers affiliated with Swedish research institutions. Data were gathered between July and September 2021. Based on the data gathered, views on a collaborative SweMSK network were identified as well as key research areas of importance to the study population. All Swedish affiliated authors included in the initial scoping study, who had published research between 2017 and

2020, were included in the questionnaire (Diarbakerli et al., 2022). A total of 354 researchers were included in the study group.

2.2 | Questionnaire development and administration

The questionnaire used in this study was based on questionnaire items used by the Australian and New Zealand Musculoskeletal Clinical Trials Network (ANZMUSC) (Buchbinder et al., 2020) and a Delphi-survey on research priorities conducted by the Global Alliance for Musculoskeletal Health (Briggs et al., 2021). The original questionnaire items were translated from English to Swedish, reviewed by an expert group, pilot-tested, and then reviewed by the expert group a second time. The final questionnaire was structured, and content approved when consensus was reached. The questionnaire was distributed electronically to 354 participants between 2021-07-08 and 2021-09-17. Each participant was assigned a unique password to access the questionnaire. Participants were sent email reminders every other week (a total of 5 reminders) and a confirmation email when the questionnaire was answered. The questionnaire consisted of three parts: the first part was about the respondents' background, the second part was about their views on a potential research network, and the third part was about future research areas. The web-survey was initially submitted to the targeted participants with reminders every 2 weeks in case of non-response. Each question required an answer for the questionnaire to be completed, which prevented missing data.

2.3 | Data analysis

The respondents were asked to rate statements on a scale from 1 to 9, where one indicated 'do not agree at all' and nine indicated 'fully agree,' with five indicating a neutral position. Data are presented as median (25th, 75th percentiles) and number (%) of respondents agreeing with the statements given. A responder was considered to agree with a given statement if their response was six or higher, while a response of four or below was considered as not agreeing and 5 as neutral. Additionally, respondents were asked to rank the five most important topics in need of future research. The available topics were public health, equality in MSK-care, risk assessments/risk factors, primary prevention, secondary prevention, diagnostics (investigation), pharmacological treatment, non-operative interventions, surgical interventions, occupational health, cost-effectiveness of procedures, implementation of research, international collaboration, and innovation.

3 | RESULTS

3.1 | Participant characteristics

Of the 354 individuals who were invited to participate in the survey, 141 completed the survey (response rate 40%). Table 1 and Table 2 present the demographic and professional characteristics of the respondents. Of the respondents, 46% were female, and the majority were orthopaedic surgeons (28%) or physical therapists (24%). No occupational therapists responded to the survey.

In terms of academic titles, 33% of respondents were professors and 26% were associate professors, indicating a high level of academic competence among the participants. A further 28% had a PhD as their highest academic title. Table 2 shows that pain disorders were the most common area of research (45%), followed by joint, tendon, and muscle disorders (36%) and degenerative joint disorders (35%).

3.2 | Perceptions on potential research network

The majority of respondents (67%) indicated a positive perception of the need for a Swedish musculoskeletal network, with 25% being indecisive and 8% negative. These results were consistent across all research areas. The respondents strongly supported the network's focus on increased research cooperation and facilitation of collaborative projects such as multi-centre trials (Table 3). The creation of research work groups and establishment of a website were identified as the most important topics to address (Figure 1).

TABLE 1 Data on gender and profession for the respondents.

	Respondents (n = 141)
Females (%)	64 (46)
Orthopaedic surgeon (%)	38 (28)
Physical therapist (%)	32 (24)
Non-clinician (%)	26 (19)
Other (%)	14 (10)
Consultant rheumatologist (%)	12 (9)
Physician, other specialist (%)	8 (6)
Junior physician (%)	7 (5)
Nurse (%)	3 (2)
Consultant internal medicine (%)	3 (2)
Psychologist (%)	3 (2)
General practitioner (%)	2 (2)
Consultant geriatrics (%)	2 (2)
Occupational therapist (%)	0 (0)

Note: Data are presented as number and percentage.

3.3 | Future research areas

The respondents generally agreed that there is a lack of evidence regarding diagnostic procedures, prevention, rehabilitation, activity of daily living adjustments, physiotherapeutic interventions, pharmacological, and surgical interventions within their scientific area of interest. There was also agreement among the subgroups regarding the need for epidemiological and population health research, public health research, and research on health policy, with median responses ranging from 6 to 8.

However, some discrepancies were noted among the subgroups. Researchers in pain disorders had the highest response medians in the category of health policy and systems, with a median of 8 for the separate statements regarding the implementation of MSK health

TABLE 2 Data on academic title and area of research.

	Respondents (n = 141)
Academic title	
Professor (%)	46 (33)
Associate professor (%)	36 (26)
PhD (%)	40 (28)
PhD-candidate (%)	9 (6)
Other (%)	7 (5)
Not applicable (%)	3 (2)
Area of research	
Pain disorders (%)	63 (45)
Joint, tendon, muscle disorders (%)	51 (36)
Degenerative joint disorders (%)	49 (35)
Fractures (%)	33 (24)
Rheumatic conditions (%)	24 (17)
Other (%)	20 (14)
Bone health and osteoporosis (%)	13 (9)

Note: Data are presented as number and percentage.

TABLE 3 Respondents' views on the most important topics for a future collaborative network.

Network priority ^a	Mean	Median
Identify research questions	7	7
Collaboration of studies	8.2	9
Health care collaboration	7.8	8
Support existing networks	7.9	9
Research implementation	7.9	9
Address national research priorities	7.8	8
Education and national collaboration	7.6	8

^aNine level value: 1 (disagree completely) –3 (partly disagree) –5 (neutral) –7 (partly agree) –9 (agree completely).

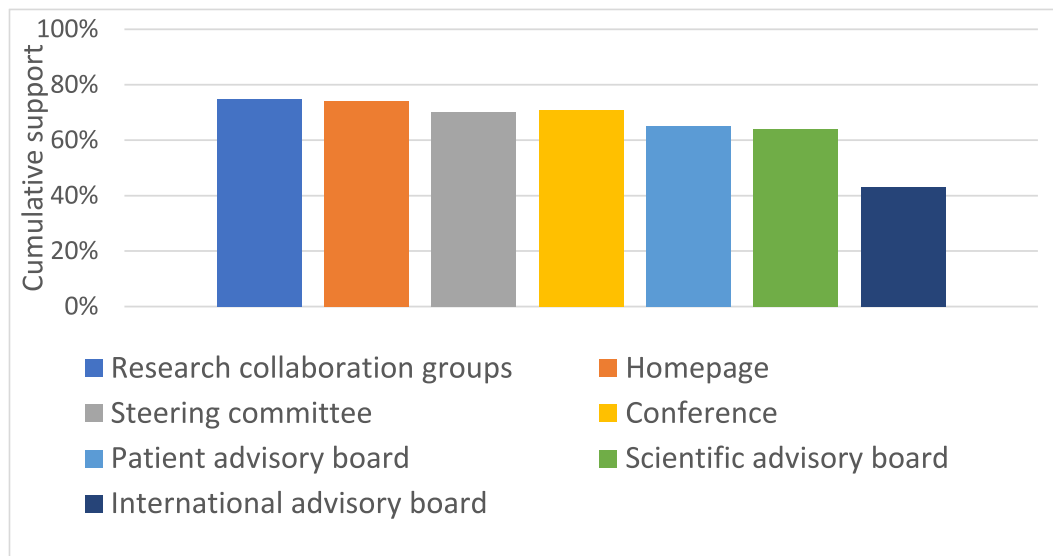


FIGURE 1 Network establishment priorities.

service models, how health service models can reduce inequalities in MSK care, and the effectiveness and acceptability of digital technologies supporting health care. In contrast, researchers in the fracture and other disorder groups had the lowest response median in the same category for the statement on how health service models can reduce inequalities in MSK care (median 6).

Regarding the need for clinical and basic research, all groups had a response median of ≥ 8 for every separate statement, while researchers in degenerative joint disorders had a median of 7 for the statement regarding exploring new biomarkers, analyses, and diagnostics (Figure 2).

3.4 | Respondents' views on important future research topics

The top 5 ranked areas of importance for future research were the implementation of research (69%), non-operative interventions (62%), primary prevention (58%), cost-effectiveness of procedures (45%), and risk assessment/risk factors (45%). When the respondents were stratified by research area, the implementation of research in clinical practice was of highest importance to researchers in the fields of pain (75%), joint/muscle/tendon (75%), and degenerative joint disorders (69%). Risk assessment/risk factors were of highest importance to researchers in the fields of rheumatology (67%) and bone health/osteoporosis (69%). For researchers in the field of fractures, non-operative treatment was ranked highest (64%).

4 | DISCUSSION

This study aims to consolidate and present the views on a collaborative SweMSK-network based on data gathered from Swedish MSK clinical researchers. The majority of the respondents were in agreement that current evidence, research, and knowledge are lacking in

terms of diagnostics, prevention, and interventions of physiotherapeutic, pharmacological, and surgical nature within the field of MSK. The results of this study indicate that researchers and clinicians in Sweden have similar needs as those in Australia and New Zealand, as highlighted in a recently published scoping review from our group (Diarbakerli et al., 2022).

The current study identified specific areas within the field of MSK in need of further research. The implementation of evidence and new research was a top priority for many respondents. For example, in the area of non-specific low back pain, there is a continued over-treatment and over-diagnosis despite the lack of evidence (Foster et al., 2018). Conversely, there is an under-utilisation of non-pharmacological modalities and lifestyle interventions in the field of degenerative joint disorders (Brand et al., 2014). Respondents highlighted the need for clinical and basic science research, health economic research, and innovation research. To address these issues, a collaborative nationwide network aims to enhance and facilitate high-quality research.

The ANZMUSC initiative aimed to better align MSK research and its implementation, focusing on the most important research topics to reduce research waste and ultimately attract funding to high-quality projects (Buchbinder et al., 2020). The initiative has been proven successful, resulting in endorsements and funding for a number of trials backed by ANZMUSC (Buchbinder et al., 2020; Day et al., 2017; Machado et al., 2018). In light of this success, we aim to establish a SweMSK network with the same objectives. Based on the data from this study, there is a large interest in such an initiative.

There was a general agreement on the lack of evidence in MSK research regarding mainly diagnostics, prevention, and interventions. It was particularly seen in the research areas of pain disorders, joint/tendon/muscle injuries, and fractures. The results from this study point out the important tools a network needs to be equipped with: research collaboration groups, organisational tools (steering committee, advisory board), and a mandate to gather, organise and communicate information (homepage, conferences).

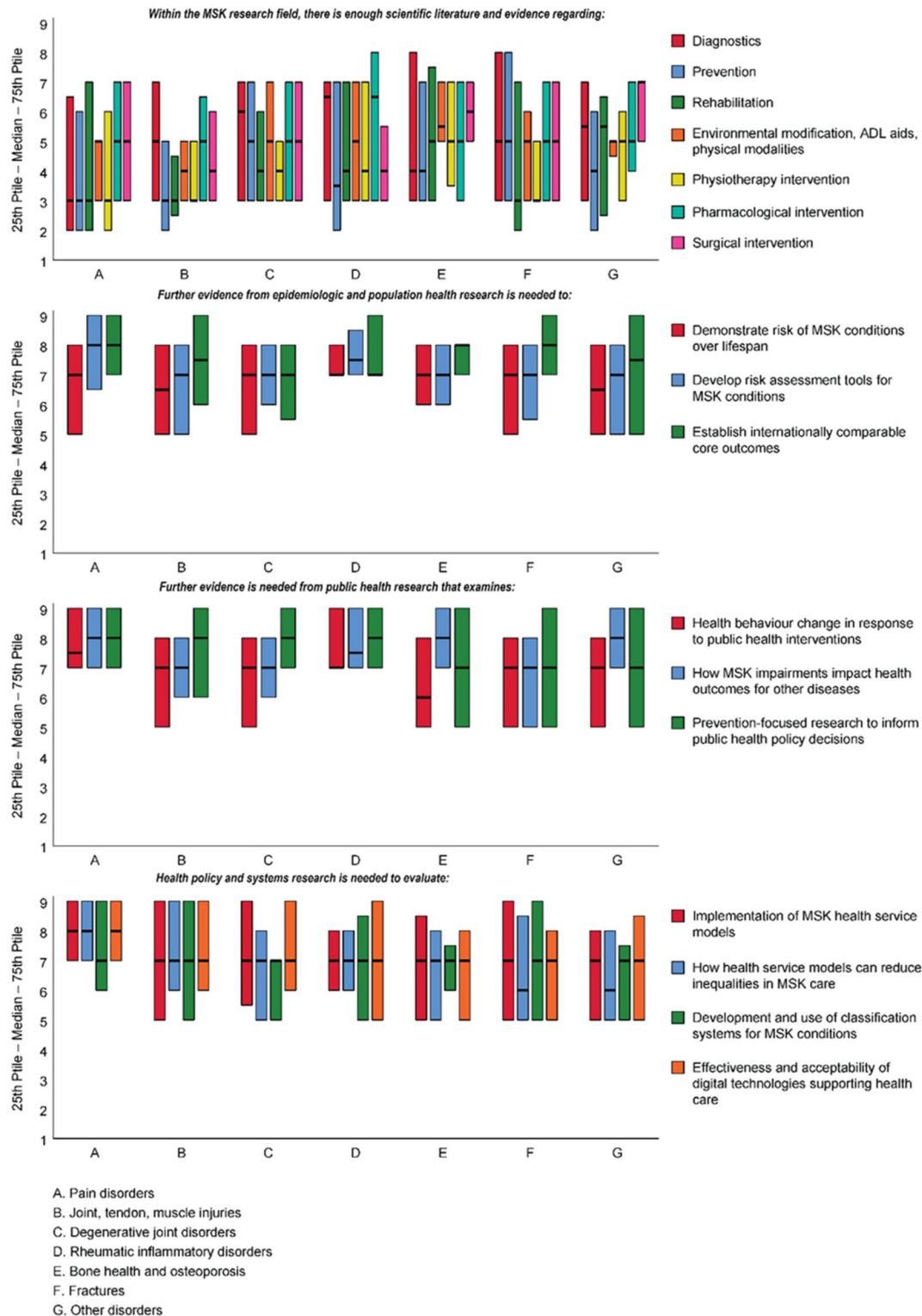


FIGURE 2 Respondents' answers on the statements regarding research priorities. Data are presented as median (25th, 75th percentile) or number (%).

4.1 | Strengths and limitations

The material of this study was derived from an earlier scoping review that included Swedish affiliated musculoskeletal researchers that

were published during 2017–2020 (Diarbakerli et al., 2022). The questionnaire was based on earlier English questionnaires regarding the creation of musculoskeletal networks in Australia and New Zealand, ANZMUSC, and the priority setting questionnaire from

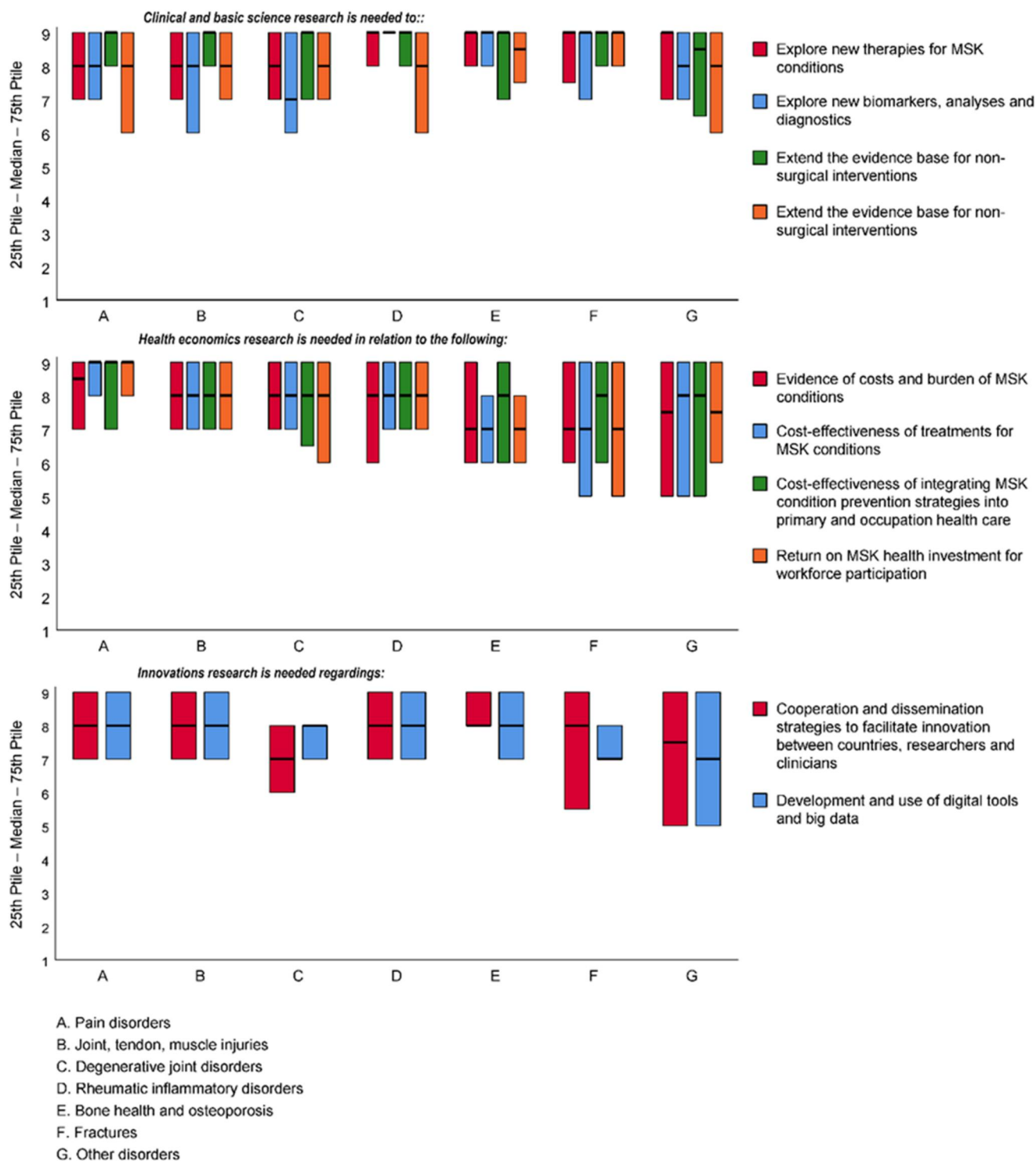


FIGURE 2 (Continued)

Global Alliance for Musculoskeletal Health (Briggs et al., 2021). The questionnaire was in digital format to provide easy access to both respondents and researchers. The response rate was 40%, which was considered good since it was mailed to the respondents. The

potential bias could be invalid or unused e-mail addresses or that the survey was conducted during the summer months where many researchers may have missed the invitation to answer the questionnaire while on work leave.

5 | CONCLUSION

The respondents were of high academic competence and active researchers. The results displayed a need and desire for increased national research collaboration, the need for the SweMSK network, and researchers' ratings of future priority areas of research. This study highlights specific areas within the field of MSK that require further research, including non-specific low back pain and degenerative joint disorders. SweMSK aims to enhance and facilitate high-quality research by aligning MSK research and its implementation and focusing on the most important research topics to reduce research waste and attract funding of high-quality projects.

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AUTHOR CONTRIBUTIONS

Elias Diarbakerli, Olof Thoreson and Allan Abbott were involved in all parts of the study. Martin Björklund, Leif E. Dahlberg, Martin Englund, Paul Gerdhem, Joanna Kvist, Maziar Mohaddes, Anneli Peolsson, Ola Rolfson and Birgitta Öberg formed the expert group and were involved in the planning of the study, creation of the questionnaire and review and editing of the manuscript.

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CONFLICT OF INTEREST STATEMENT

LD is the co-founder and Chief Medical Officer of Joint Academy, a company that provides digital first-line intervention for patients with hip and knee osteoarthritis. The other authors declare that they have no conflicts of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

ETHICS STATEMENT

The persons who took part in the survey were not research participants. Swedish affiliated authors of clinical research on MSK were asked to take part as experts in a quality improvement project to define priorities for future research areas of importance and develop a collaborative Swedish national network for musculoskeletal clinical research (SweMSK). Participation in the survey was voluntary and informed consent was provided for analysis and publication of survey results. No personal data were collected. This project does not fall under the scope of the Swedish Ethical Review Act, and according to the Swedish Ethical Review Authority (<https://etik-provningsmyndigheten.se/en/>), no need for institutional ethical review was identified.

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