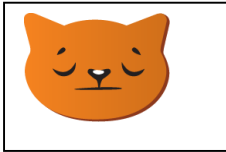


## Keele Critically Appraised Topic (CAT Form)



### Clinical Question

In adults with chronic pain, is the MSK-HQ a valid and reliable tool to detect changes in patient function?

### Clinical bottom line

There are no specific research articles / papers to show the validity or reliability of the MSK-HQ (Musculoskeletal Health Questionnaire) when used to measure improved function in the chronic pain population. However, the summary of the literature searched showed some evidence for its validity and reliability in capturing general MSK health, and quality of life changes in other long-term conditions (including those in which it would be reasonable to assume that persistent pain is common). We might, therefore, conclude there to be merit for its use in a chronic pain population. This view is supported by Dr Jonathan Hill (developer of MSK HQ), who recognises that some psychometric constructs/domains specific to this population may be missed.

### Why is this important?

Highlighting effectiveness of services is vital in the current NHS (National Health Service) climate. Around 15.5 million people in England (34% of the population) have chronic pain. Approximately 5.5 million people (12% of the population) have high-impact chronic pain and struggle to take part in daily activities. Chronic pain has long-term effects on quality of life, physical / functional disability, and emotional distress. Multidisciplinary chronic pain rehabilitation input is considered gold standard and is supported by NICE guidelines (2021). Having an outcome measure that detects improvements in QOL / function / wellbeing allows us to show the benefits of providing this input and help to secure support for / funding to provide it to the wider community.

Search timeframe (e.g. 2013-2013)

2016 - 2023

## Search criteria

| <b>Population<br/>Intervention<br/>Comparison<br/>Outcomes (PICO)<br/>themes</b>       | <b>Description</b>                                  | <b>Search terms</b>   |
|--|---|---|
| Population and Setting<br><br>E.g. adults with OA, primary care                        | Adults living with chronic pain                     | Adults with chronic pain. 18 and over. Persistent pain. Widespread pain. Fibromyalgia. Chronic Primary Pain. Chronic Primary Pain Syndrome. |
| Intervention or Exposure<br><br>(i.e. what is being tested)<br><br>e.g. manual therapy | The Musculoskeletal Health Questionnaire (MSK-HQ)   | MSK HQ. Musculoskeletal Health Questionnaire  |
| Comparison, if any<br><br>e.g. usual care, leaflet                                     | None  | None  |
| Outcomes of interest<br><br>e.g. Visual analogue scale, Range of motion                | Ability to detect change in patient function        | Improved function. Improvements in quality of life. Living well with pain. Wellbeing  |
| Types of studies<br><br>e.g. Randomised Controlled Trails, Systematic reviews          | Observational / Cohort studies / Service Evaluation |   |

## Databases searched

Clinical Knowledge Summaries, PEDro, BMJ Updates, Clinical Evidence, TRIP, Database, NICE, HTA, Bandolier, The Cochrane Library, Medline, Cinahl, Embase, PsycInfo, Professional websites, Joanna Briggs Institute, Web of Science, Sports discus and Pub Med

## Date of search

11/5/23

Results of the search: include the number in each box

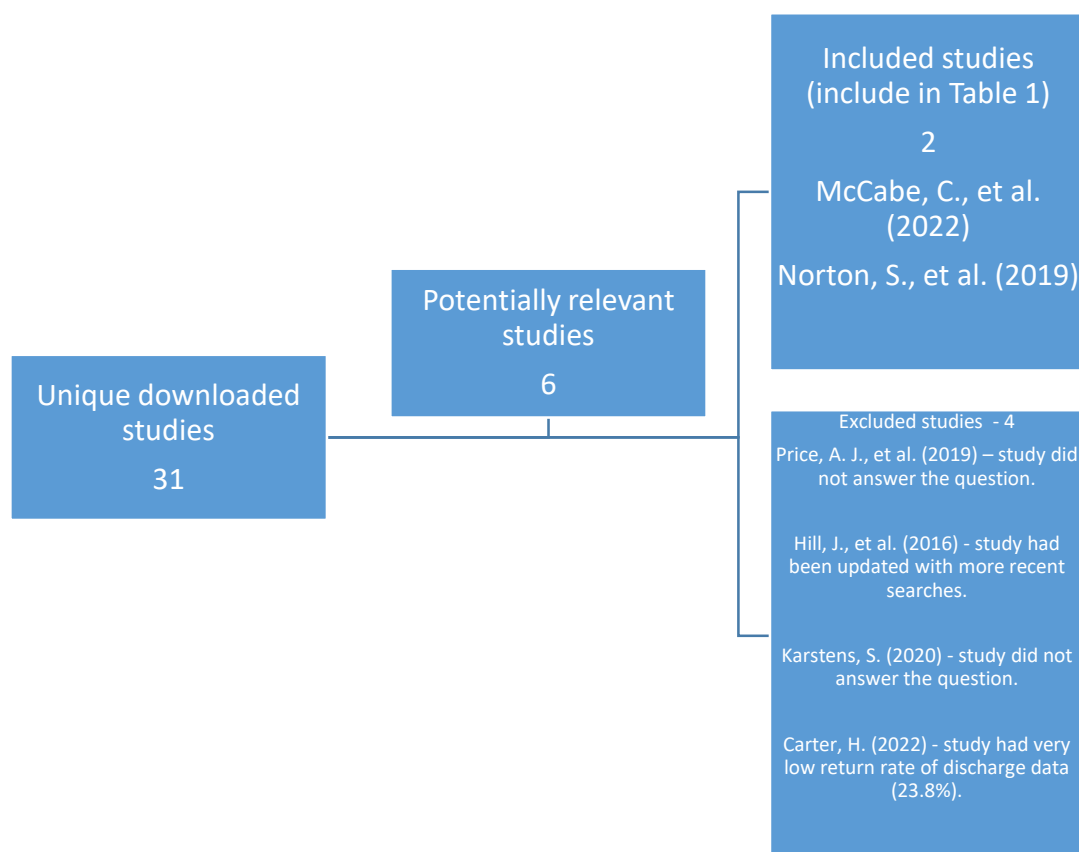


Table 1- Detail of included studies

| First author, year and type of study  | Population and setting   | Intervention or exposure tested  | Study results  | Assessment of quality and comments   |
|---------------------------------------|--|--|--|--|
| Norton, S. (2019)<br><br>Cohort study | Adults with a diagnosis of inflammatory arthritis who were starting a new synthetic or biologic medication.<br><br>Participants recruited from secondary | Completion of MSK-HQ, and other PROMS (HAQ, EQ5D-5L), RAID, PsAID, ASQoL) at baseline and 3/12 post treatment. | High acceptability was shown by low levels of missing data per item.<br><br>The distribution of the MSK-HQ total score was approximately normally distributed with | Reasonable sample size. n=287.<br><br>The sample was predominantly RA and PsA, and so the conclusions across the other disease areas |

|                                       |  |   |   |   |
|---------------------------------------|--|---|---|---|
|                                       | care rheumatology outpatient clinics.  |   | <p>participants scoring across the entire range from 0 to 56.</p> <p>No floor or ceiling effect was seen.</p> <p>Test-retest reliability was high for both the total scale score including all items and the reduced scale score excluding items 12 and 13.</p> <p>There was some sign of non-linearity in the relationship between the MSK-HQ with the HAQ and EQ5D Index, which is suggestive of the HAQ and EQ5D Index being more sensitive at differentiating between those with extremely poor musculoskeletal health.</p> | <p>need further study.</p> <p>Good discussion around psychometric characteristics of MSK-HQ.</p> <p>Inclusion criteria if starting new medication.</p> <p>No follow-up data after 3 months.</p> <p>Observed improvements could be misleading / short-lasting.</p> |
| McCabe, C. (2022)<br><br>Cohort study | Adults attending a structured eight-week multidisciplinary intervention group programme for pain | PROM data for pre intervention, 8 weeks, one- and three-months post programme were collected from 62 patients. The effectiveness of MSK-HQ data | TSK, PSEQ and MSK-HQ) were all statistically significant in a Friedman's two-tailed test. Using Spearman's Rho: MSK-HQ was not significantly  | <p>Small sample size n=38.</p> <p>From 62 patients completing PROMS. 56 missing random</p>  |

|  |                                      |  |  |   |
|--|--------------------------------------|--|--|---|
|  | management in an outpatient setting. | was measured using Friedman's analysis of variance test: repeated measures design for all three PROMs. To investigate whether the MSK-HQ is as effective as the TSK and PSEQ, a correlation analysis using Spearman's Rho was conducted. | correlated with PSEQ at pre programme or TSK. Post programme, MSK-HQ was not significantly correlated with TSK but was significantly associated with PSEQ; at one-month post programme, MSK-HQ with TSK showed no significant association, but was with PSEQ. At three-month post programme, MSK-HQ was not significantly correlated with TSK, in contrast with significant association shown with PSEQ. | data points and were subject to deletion.<br><br>Measured against other validated PROM's. |
|--|--------------------------------------|--|--|---|

## Summary

The MSK-HQ is simple to administer and has good acceptability with patients. The MSK-HQ performs well as a Patient Reported Outcome Measure (PROM) for assessing musculoskeletal health related quality of life within an inflammatory arthritis cohort, with acceptable psychometric properties. The MSK-HQ was also shown to be a statistically effective PROM when used in a pain management programme. It should be considered a valuable PROM that can be used across various disease areas

## Implications for practice

Further specific research evidence is needed to show the validity or reliability of the MSK-HQ when used to measure improved function in the chronic pain population. However, there is some evidence currently to show that the MSK-HQ is statistically effective, and a valid and reliable measure of musculoskeletal health related quality of life. It should be considered a valuable PROM that can be used across various disease areas.

## What would you post on X (previously Twitter)?

The MSK-HQ is valid and reliable when used to assess functional improvements in long-term conditions. Should we start using it in this population?

## References




Norton S, Ellis B, Santana Suárez B, Schwank S, Fitzpatrick R, Price A, Galloway J. Validation of the Musculoskeletal Health Questionnaire in inflammatory arthritis: a psychometric evaluation. *Rheumatology (Oxford)*. 2019 Jan 1;58(1):45-51. doi: 10.1093/rheumatology/key240. PMID: 30107591; PMCID: PMC6293478.

[Validation of the Musculoskeletal Health Questionnaire in inflammatory arthritis: a psychometric evaluation - PubMed \(nih.gov\)](#)

McCabe, C.; Hatch, D.; Chohan, A. An evaluation of effectiveness of the Musculoskeletal Health Questionnaire (MSK-HQ) as a measure for adults following a pain management programme. *Physiotherapy 2021 Supplement 1, Vol. 113, pe166*

[An evaluation of effectiveness of the Musculoskeletal Health Questionnaire \(MSK-HQ\) as a measure for adults following a pain management programme | The Chartered Society of Physiotherapy \(csp.org.uk\)](#)

Please tick the box that best reflects your clinical bottom line and include the picture on page 1

| CAT image   | Evidence quality  | Checkbox                            |
|---|---|-------------------------------------|
|  | Good quality evidence to support use....  | <input type="checkbox"/>            |
|  | Insufficient or poor quality evidence OR substantial harms suggest intervention used with caution after discussion with patient...                    | <input checked="" type="checkbox"/> |
|  | No good quality evidence, do not use until further research is conducted OR<br>Good quality evidence to indicate that harms outweigh the benefits.... | <input type="checkbox"/>            |

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