

PRO INSTRUMENTS FOR MUSCULOSKELETAL DISORDERS USED IN STUDIES PUBLISHED SINCE 2005: WHICH DISEASES HAVE HAD THE MOST TOOLS DEVELOPED?

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Objectives

To determine the number of unique patient- and clinician-reported outcome (PRO) tools that have been used in studies published since 2005 for different musculoskeletal disorders.

Methods

We developed a PRO instrument ontology from those tools cited within the abstracts of over 100,000 studies identified by a systematic search of PubMed on the humanistic and economic burden of disease, which were stored in an online database (www.heoro.com). The ontology items are semantically indexed by general topic, population, disease or body area, symptom or treatment. Abstracts are tagged to each relevant ontology item during an automated process using text processing and tokenising approaches, and indexing is then checked by experts.

Results

A total of 4,272 instruments were identified from 22,254 relevant abstracts. Of these, 2,540 (59%) were disease-specific tools, and 344 (14% of the disease-specific tools and 8% of the total) were used in studies of patients with musculoskeletal disorders.

Most of these tools (192) were not specific for any one musculoskeletal disorder. The remaining 152 tools were designed for, or used in, more than 30 different musculoskeletal disorders. The most diversity was found for arthritis, with 17 tools for osteoarthritis, 14 for rheumatoid arthritis, 4 for psoriatic arthritis and 11 for any arthritis. A further 17 tools were designed for use in ankylosing spondylitis, 7 for back pain and 4 for scoliosis. Sixteen tools were developed for osteoporosis, 11 for fibromyalgia, 14 for amputations and 9 for tendon or ligament damage or disorders.

Disease or problem	Number of instruments	Disease or problem	Number of instruments
Any musculoskeletal disorder	192	Soft tissue disorders	2
Ankylosing spondylitis	17	Spinal stenosis	2
Osteoarthritis	17	Cervical myelopathy	1
Osteoporosis	16	Club foot	1
Amputation	14	Dactylitis	1
Rheumatoid arthritis	14	Disc degeneration	1
Arthritis, general	11	Enthesitis	1
Fibromyalgia	11	Foot/ankle disorders	1
Back pain	7	Fractures	1
Ligament disorders	5	Knee disorders	1
Motility problems	4	Myositis	1
Psoriatic arthritis	4	Pectus excavatum	1
Scoliosis	4	Rotator cuff injury	1
Tendon damage	4	Scleroderma	1
Cartilage disorder	2	Sjogren's disease	1
Gout	2	Systemic sclerosis	1

Conclusions

A vast number of different PRO tools have been developed and used in research published over the past 10 years. Musculoskeletal disorders have been well represented, reflecting their impact on subjective outcomes, but the diversity makes it challenging to compare effectiveness and cost-effectiveness outcomes across studies.