
A simple visual analog scale for pain is as responsive as the WOMAC, the SF-36, and the EQ-5D in measuring outcomes of revision hip arthroplasty

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BACKGROUND AND PURPOSE

Little is known about the comparative performance of patient-reported outcome measures in revision hip arthroplasty. We compared the performance of the WOMAC, the SF-36, the EQ-5D, and a pain-related visual analog scale (VAS) in revision hip arthroplasty.

METHODS

45 patients with aseptic prosthetic loosening following primary hip arthroplasty completed the WOMAC, the SF-36, the EQ-5D, and a VAS for pain—at baseline and 2 years after revision. Responsiveness of the measures was compared with the effect size (with ≥ 0.8 being considered large). Agreement between scales measuring the same type of outcome (pain or physical function) was assessed with the Bland-Altman method.

RESULTS

The mean preoperative scores for the pain and physical function scales of WOMAC and SF-36, EQ-5D index, and VAS for pain improved statistically significantly 2 years after revision. The effect size for the WOMAC pain was 1.7, that for SF-36 pain was 1.4, that for WOMAC physical function was 1.6, that for SF-36 physical function was 0.8, and that for EQ-5D index was 1.2. The VAS for pain had an effect size of 2.1, which was larger than that for SF-36 pain and for the EQ-5D index ($p \leq 0.03$) but not for WOMAC pain ($p = 0.2$). The limits of agreement between WOMAC pain, SF-36 pain, and the VAS scale measuring pain—and between the WOMAC and SF-36 scales measuring physical function—were wide. Internal-consistency reliability was high for the WOMAC and SF-36 scales but low for the EQ-5D.

INTERPRETATION

In patients with first-time revision hip arthroplasty done for aseptic loosening, the WOMAC, SF-36, and EQ-5D showed high responsiveness in measuring patient-reported outcomes and the simple VAS for pain performed equally well.

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Heel Pain and Comorbid Conditions in Obese Patients

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OBJECTIVES

Plantar heel pain [PHP] is one of the most common musculoskeletal disorders of the foot, yet its etiology is poorly understood. Although obesity is the most common cause of PHP, there is little information available about the prevalence and associated factors in obese patients with PHP. The aim of this study was to investigate the prevalence of obesity associated co-morbidities in people with and without PHP.

METHODS

Obese and overweight patients with or without PHP were sought for this study. The two groups were then compared with regard to weight, hormone, and blood parameters. Diabetes mellitus, chronic obstructive lung disease, asthma, smoking, varix, hemorrhoid, lumbago, constipation, osteoporosis, hormone replacement therapy, goiter, and gastroesophageal reflux.

FINDINGS

One hundred forty nine obese and overweight patients agreed to participate [34 with PHP and 115 without PHP]. Statistical analyses demonstrated that the PHP group had a longer duration of obesity than those without PHP. The PHP group had an increased prevalence of chronic obstructive lung disease, [$p < 0.01$], hemorrhoid [$p < 0.01$], lumbago [$p < 0.01$], constipation [$p < 0.01$], and gastroesophageal reflux [$P < 0.05$]. By contrast, the prevalence of asthma [$p < 0.05$], and varix [$p < 0.01$] were decreased in the PHP[+] group. No statistically significant difference in group prevalence was found for diabetes mellitus, coronary heart disease, smoking, osteoporosis, hormone replacement therapy, or goiter.

CONCLUSIONS

The results of this study suggest that the duration of the obesity in obese patient may be important to the development of PHP in obese patients. The longer duration of obesity in the PHP group may also help to explain its association with co-morbidities such as chronic obstructive lung disease, hemorrhoid, lumbago, constipation, and gastroesophageal reflux.

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How does accounting for worker productivity affect the measured cost-effectiveness of lumbar discectomy

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BACKGROUND

Back pain attributable to lumbar disc herniation is a substantial cause of reduced workplace productivity. Disc herniation surgery is effective in reducing pain and improving function. However, few studies have examined the effects of surgery on worker productivity.

QUESTIONS/PURPOSES

We wished to determine the effect of disc herniation surgery on workers' earnings and missed workdays and how accounting for this effect influences the cost-effectiveness of surgery.

METHODS

Regression models were estimated using data from the National Health Interview Survey to assess the effects of lower back pain caused by disc herniation on earnings and missed workdays. The results were incorporated into Markov models to compare societal costs associated with surgical and nonsurgical treatments for privately insured, working patients. Clinical outcomes and utilities were based on results from the Spine Patient Outcomes Research Trial and additional clinical literature.

RESULTS

We estimate average annual earnings of \$47,619 with surgery and \$45,694 with nonsurgical treatment. The increased earnings for patients receiving surgery as compared with nonsurgical treatment is equal to \$1925 (95% CI, \$1121-\$2728). After surgery, we also estimate that workers receiving surgery miss, on average, 3 fewer days per year than if workers had received nonsurgical treatment (95% CI, 2.4-3.7 days). However, these fewer missed work days only partially offset the assumed 20 workdays missed to recover from surgery. More fully accounting for the effects of disc herniation surgery on productivity reduced the cost of surgery per quality-adjusted life year (QALY) from \$52,416 to \$35,146 using a 4-year time horizon and from \$27,359 to \$4186 using an 8-year time horizon. According to a sensitivity analysis, the 4-year cost per QALY varies between \$27,921 and \$49,787 depending on model assumptions.

CONCLUSIONS

Increased worker earnings resulting from disc herniation surgery may offset the increased direct medical costs associated with surgery. After accounting for the effects on productivity, disc herniation surgery was found to be a highly cost-effective surgery and may yield net societal savings if the benefits of outpatient and inpatient surgery persist beyond 6 and 12 years, respectively.

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Should physical activity recommendation depend on state of low back pain?

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BACKGROUND

Leisure time physical activity is recommended for preventing long-term sickness absence (LTSA). Although low back pain (LBP) is a risk factor for sickness absence and physical activity is recommended for people with LBP, it is unknown if leisure time physical activity prevents LTSA among persons with different levels of LBP.

METHODS

Prospective cohort study among 8655 Danish female healthcare workers responding to a questionnaire in 2004-2005 on leisure time physical activity and LBP, and subsequently followed for 1 year on periods with LTSA –2 consecutive weeks or more of sickness absence in a national register of social transfer payments (DREAM). Multi-adjusted Cox regression analysis was used to model risk estimates for LTSA associated with low, moderate, high and very high leisure time physical activity at baseline among healthcare workers with no LBP (0 days past 12 months, n = 2761), non-chronic LBP (1-30 days the past 12 months, n = 3942) and persistent LBP (>30 days the past 12 months, n = 1952).

RESULTS

A strongly reduced risk for LTSA from high leisure time physical activity was found among healthcare workers with no LBP [hazard ratio (HR): 95% confidence interval (CI) 0.47: 0.23-0.97 for low vs. very high activity] and non-chronic LBP (HR: 95%CI 0.43:0.23-0.84 of low vs. very high activity), but not among healthcare workers with persistent LBP (HR: 95%CI 1.15: 0.55-2.44 of low vs. very high activity).

CONCLUSIONS

Leisure time physical activity is a strong predictive factor on LTSA among female healthcare workers with no and non-chronic LBP, but not among those with more persistent LBP.

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How is radiating leg pain defined in randomized controlled trials of conservative treatments in primary care? A systematic review

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Many terms exist to describe radiating leg pain or symptoms associated with back pain (e.g., sciatica or radiculopathy) and it appears that these terms are used inconsistently. We examined the terms used to describe, and the eligibility criteria used to define, radiating leg pain in randomized controlled trials of conservative treatments, and evaluated how the eligibility criteria compared to an international pain taxonomy. Eligible studies were identified from two systematic reviews and an updated search of their search strategy. Studies were included if they recruited adults with radiating leg pain associated with back pain. Two independent reviewers screened the studies and extracted data. Studies were grouped according to the terms used to describe radiating leg pain. Thirty-one of the seventy-seven included studies used multiple terms to describe radiating leg pain; the most commonly used terms were sciatica (60 studies) and disc herniation (19 studies). Most studies that used the term sciatica included pain distribution in the eligibility criteria, but studies were inconsistent in including signs (e.g., neurological deficits) and imaging findings. Similarly, studies that used other terms to describe radiating leg pain used inconsistent eligibility criteria between studies and to the pain taxonomy, except that positive imaging findings were required for almost all studies that used disc herniation to describe radiating leg pain. In view of the varying terms to describe, and eligibility criteria to define, radiating leg pain, consensus needs to be reached for each of communication and comparison between studies.

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A longitudinal study of knee pain in older men: Concord Health and Ageing in Men Project

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BACKGROUND

Chronic knee pain is still considered a fairly benign disease by many, an 'unavoidable' consequence of ageing. This passive acceptance may be unnecessarily exposing older people to disability and serious co-morbidity. The aim of this study was to determine the disease burden associated with chronic knee pain and the role of knee extensor strength as a modifiable risk factor.

METHODS

A longitudinal cohort study with 2-year follow-up conducted among 1,587 community-dwelling men aged 70 years and over, 637 (40%) reported chronic knee pain. Of the 950 (60%) men without knee pain at baseline, 768 (81%) returned for the follow-up assessment with 150 (20%) reporting incident chronic knee pain.

RESULTS

Knee pain was significantly associated with marked mobility disability [odds ratio (OR) 2.38; 95% confidence interval (CI) 1.74-3.29], falls (OR: 1.31; 95% CI: 1.01-1.70) and having four or more co-morbidity (OR: 1.63; 95% CI: 1.16-2.30) as well as reduced knee extensor strength and mass (dual X-ray absorptiometry). Men with incident knee pain at the 2-year follow-up assessment demonstrated greater increases in these measures of disease burden and greater decreases in muscle strength and mass, compared with those without incident chronic knee pain. Obesity, high co-morbidity burden, back pain, higher levels of physical activity or low knee extensor strength were all significant risk factors for incident knee pain.

CONCLUSIONS

Prevention of chronic knee pain may reduce a considerable burden of mobility disability and increased risk of serious co-morbidity among older men.

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Patellar taping for patellofemoral pain: a systematic review and meta-analysis to evaluate clinical outcomes and biomechanical mechanisms

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OBJECTIVE

Patellar taping is frequently used to treat patellofemoral pain (PFP). This systematic review and meta-analysis (1) evaluates the efficacy of patellar taping for patients with PFP, (2) compares the efficacy of various taping techniques and (3) identifies potential biomechanical mechanisms of action.

METHODS

The MEDLINE, CINAHL, SPORTSDiscus, Web of Science and Google Scholar databases were searched in January 2013 for studies evaluating the effects of patellar taping on pain and lower-limb biomechanics in individuals with PFP. Three independent reviewers assessed each paper for inclusion and two assessed for quality. Means and SDs were extracted from each included study to allow effect size calculations.

RESULTS

Twenty studies were identified. There is moderate evidence that (1) tailored (customised to the patient to control lateral tilt, glide and spin) and untailored patellar taping provides immediate pain reduction of large and small effect, respectively and (2) tailored patellar taping promotes earlier onset of vastus medialis oblique (VMO) contraction (relative to vastus lateralis contraction). There is limited evidence that (1) tailored patellar taping combined with exercise provides superior pain reduction compared to exercise alone at 4 weeks, (2) untailored patellar taping added to exercise at 3-12 months has no benefit and (3) tailored patellar taping promotes increased internal knee extension moments.

CONCLUSIONS

Tailoring patellar taping application (ie, to control lateral tilt, glide and spin) to optimise pain reduction is important for efficacy. Evaluation of tailored patellar taping beyond the immediate term is limited and should be a research priority. Possible mechanisms behind patellar taping efficacy include earlier VMO onset and improved knee function capacity (ie, ability to tolerate greater internal knee extension moments).

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Managing chronic pain in elderly patients requires a CHANGE of approach

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ABSTRACT

In many countries, the number of elderly people has increased rapidly in recent years and this is expected to continue; it has been predicted that almost a quarter of the population in the European Union will be over 65 years of age in 2035. Many elderly people suffer from chronic pain but it is regularly under-treated, partly because managing these patients is often complex. This paper outlines the extent of untreated pain in this population and the consequent reduction in quality of life, before articulating the reasons why it is poorly or inaccurately diagnosed. These include the patient's unwillingness to complain, atypical pain presentations, multiple morbidities and cognitive decline. Successful pain management depends upon accurate diagnosis, which is based upon a complete history and thorough physical examination, as well as an assessment of psychosocial functioning. Poor physician/patient communication can be improved by using standardized instruments to establish individual treatment targets and measure progress towards them. User-friendly observational instruments may be valuable for patients with dementia. In line with the widely accepted biopsychosocial model of pain, a multidisciplinary approach to pain management is recommended, with pharmacotherapy, psychological support, physical rehabilitation and interventional procedures available if required. Declining organ function and other physiological changes require lower initial doses of analgesics and less frequent dosing intervals, and the physician must be aware of all medications that the patient is taking, in order to avoid drug/drug interactions. Non-adherence to treatment is common, and various strategies can be employed to improve it; involving the elderly patient's caregivers and family, using medication systems such as pill-boxes, or even sending text messages. In the long term, the teaching of pain medicine needs to be improved - particularly in the use of opioids - both at undergraduate level and after qualification.

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GPs' perspectives on the diagnostic work-up in patients with shoulder pain: a qualitative study

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RATIONALE, AIMS AND OBJECTIVES

The diagnostic work-up of patients with shoulder pain in general practice is complex. General practitioners' (GPs) guidelines advise a pragmatic diagnostic work-up in which additional imaging has a limited role. However, diagnostic ultrasounds are increasingly ordered by GPs, which seems to reflect complexity in management of shoulder pain. This study aimed to explore GPs' perspectives on the diagnostic work-up of patients with shoulder pain.

METHODS

This study has a qualitative exploratory design with an inductive approach and was carried out in Dutch general practice. The study population consisted of 18 Dutch GPs who were sampled purposefully with a spread in clinical experience and ordering diagnostic ultrasound. Data were gathered by means of semi-structured interviews and analysed following principles of the constant comparative method.

RESULTS

Three main categories with subcategories emerged that captured the diagnostic work-up of shoulder pain: variety in diagnostic classifications [(non-)specific diagnosis and interdisciplinary differences], establishing strategies for diagnostic work-up (use of existing tools and motives to deviate from existing tools), and strategies dealing with diagnostic uncertainties (accepting diagnostic uncertainties, diagnostic imaging tests, and interdisciplinary consultation and referral).

CONCLUSIONS

Despite the availability of evidence-based shoulder guidelines, GPs experience uncertainties during diagnostic work-up and apply different strategies when dealing with these uncertainties. At some point, GPs as well as patients seem to have a need for a specific diagnosis. Currently, there appears to be little agreement if, or in which phase of shoulder pain, diagnostic ultrasound is useful or indicated.

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Postoperative pain following hospital discharge after knee replacement surgery: a patient survey

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AIM

To determine patients' pain experience and potential barriers to effective pain relief after discharge.

MATERIALS & METHODS

Cross-sectional survey at weeks 2 and 4 to consecutive patients after discharge following total knee arthroplasty on pain severity; use of pain medication and nonpharmacological strategies; side effects and perceptions of pain medication; adequacy of information; and patient satisfaction.

RESULTS

We recruited 105 participants (response rate: 94%). During the first 2 weeks at home, 40% of the participants experienced frequent severe–extreme pain and 20% of the participants reported that this was the most painful period. There was no/inadequate information on pain medication for 30% of the participants and nonpharmacological strategies for pain relief for 60% of the participants. Many participants had misconceptions about pain medications. More no to mild pain participants walked or exercised their knees longer daily, or were satisfied with pain relief since returning home, compared with moderate–severe pain participants.

CONCLUSIONS

Following discharge for total knee replacement, there was suboptimal use of pain medication and nonpharmacological strategies, probably leading to unnecessary pain, reduced mobility, limited therapeutic exercise and patient dissatisfaction.

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A systematic review of early prognostic factors for persisting pain following acute orthopedic trauma

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BACKGROUND

Acute orthopedic trauma contributes substantially to the global burden of disease.

OBJECTIVES

The present systematic review aimed to summarize the current knowledge concerning prognostic factors for the presence of persistent pain, pain severity and pain-related disability following acute orthopedic trauma involving a spectrum of pathologies to working-age adults.

METHODS

The Ovid MEDLINE and EMBASE databases were searched for level II prognostic studies published between January 1996 and October 2010. Studies that were longitudinal and reported results with multivariate analyses appropriate for prognostic studies were included. Studies that addressed two specific injury types that have been the subject of previous reviews, namely, injuries to the spinal column and amputations, were excluded.

RESULTS

The searches yielded 992 studies; 10 studies met the inclusion criteria and were rated for methodological quality. Seventeen factors were considered in more than one cohort. There was strong evidence supporting the association of female sex, older age, high pain intensity, preinjury anxiety or depression, and fewer years of education with persistent pain outcomes. There was moderate evidence supporting the association between postinjury depression or anxiety with persistent pain, and that injury severity was not a risk factor for ongoing pain.

CONCLUSIONS

Many individuals experience persistent pain following acute trauma. Due to the lack of studies, the use of different constructs to measure the same factor and the methodological limitations associated with many of the studies, the present review was only able to reliably identify a limited set of factors that predicted persistent pain. Recommendations for the conduct of future methodologically rigorous studies of persistent pain are provided.

Pain Res Manag 2012 Jan-Feb;17(1):35-44