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# EJPRM systematic continuous update on Cochrane reviews in rehabilitation: news from the second issue 2009

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**The aim of the present paper is to systematically review all the new rehabilitation papers published in the second issue of 2009 from the Cochrane Library in order to provide to physicians involved in the field a summary of the best evidence nowadays available. The authors systematically searched all the new papers of rehabilitative interest from the second issue 2009 of the Cochrane Library. The retrieved papers are then divided in subgroups according to their topic. This review included eight papers: three dealing with neurological rehabilitation, two about pain management, one about orthopedic rehabilitation, one about physical therapy and another about workplace interventions. Some new evidence are now available, even if more studies are needed. The Cochrane Collaboration and the Cochrane Library are really relevant instruments to improve evidence based medicine in medical practice and thus also in the rehabilitation field. The present paper can help rehabilitation specialists to easily retrieve the conclusions of the most relevant and updated reviews in order to change their clinical practice in a more rapid and effective way.**

**KEY WORDS:** Reviews - Rehabilitation - Treatment, outcome.

Knowledge and papers about rehabilitation topics have been growing up quite quickly during the last years. Sometimes results are discordant, some other times they are based on small populations, thus limiting the strength of the findings. The best way to obviate to these problems and to synthesize results driving clinical indications is to perform systematic

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reviews on high interest topics. This is the main aim of the Cochrane Collaboration, so that today the Cochrane reviews are considered the most reliable instruments of synthesis. In order to present to our readers the best available evidence in the field of rehabilitation, we continuously perform systematic reviews of the articles regularly published in the Cochrane Library.

In the present article readers can find a list of papers of rehabilitative interest systematically researched and reviewed from the second issue of 2009.

### Methods

The authors systematically searched all the new reviews of rehabilitative interest from the second issue 2009 of the Cochrane Library. Papers are divided in subgroups according to their topic.

### Results

The number of included papers was eight: three dealing with neurological rehabilitation; two about pain management, one about orthopedic rehabilitation, one about physical therapy and another about workplace interventions.

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## Neurological rehabilitation

### PIMOZIDE FOR TICS IN TOURETTE'S SYNDROME <sup>1</sup>

Six randomized controlled trials were included (total 162 participants, age range 7 to 53 years). Pimozide was compared with: placebo and haloperidol (two trials), placebo (one trial), haloperidol (one trial), and risperidone (two trials). Methodological quality was rated "fair" for all studies. Studies used different outcome measurement scales for assessing tic severity and adverse effects. Significant clinical heterogeneity made meta-analysis inappropriate. Pimozide was superior to placebo in three studies, though it caused more side effects than placebo in one of these. Pimozide was inferior to haloperidol in one out of three studies (the other two showed no significant difference between the drugs), which also showed significantly fewer side effects associated with pimozide. No significant differences between pimozide and risperidone were detected.

Pimozide is an effective treatment for tics in Tourette Syndrome, though the number of trials comparing its effect to placebo and other drugs is limited. Trials of longer duration (minimum six months) are needed to investigate the longer-term effects of pimozide compared to atypical neuroleptics. Future trials should use the Yale Global Tic Severity Scale to assess the main outcome measure, and quantify adverse events with the Extrapyramidal Symptoms Rating Scale.

### MAILUONING FOR ACUTE ISCHAEMIC STROKE <sup>2</sup>

Fifteen trials involving 1 280 participants were included. Numbers of deaths and dependent patients at the end of follow-up of at least three months were not reported in the included trials. From six trials that reported adverse events, five events occurred in two trials. Fourteen trials were assessed to be of inferior quality; when analysing these trials together, mailuoning was associated with a significant increase in the number of patients with improved neurological deficit (risk ratio 0.30; 95% confidence interval [CI] 0.22 to 0.42). One placebo-controlled trial, assessed to be of good methodological quality, failed to show an improvement of neurological deficit at the end of three months follow up (mean difference 0.69; 95% CI -3.42 to 4.80), or in activities of daily life. Quality of life, assessed in one trial, did not show significant improvement.

The author found no convincing evidence, from trials of sufficient methodological quality, to support the routine use of mailuoning to promote recovery after stroke. High-quality and large-scale randomised controlled trials are needed to confirm its efficacy.

### INTERVENTIONS FOR APATHY AFTER TRAUMATIC BRAIN INJURY <sup>3</sup>

Only one trial that satisfied the inclusion criteria for this review was identified. This trial (N.=21) showed that cranial electrotherapy stimulation (CES) decreased inertia, which is a component of apathy, while no changes were seen in the sham treatment or no treatment control groups. Given that no between-group analysis was reported, it was not possible to determine if the CES treatment group improved significantly more than the control group.

No evidence was provided to support the use of CES treatment for inertia, a component of apathy. Between-group statistical analyses were not conducted and it was therefore not possible to determine the efficacy of the treatment relative to no treatment or sham treatment. Results regarding the effectiveness of treatment can only be inferred, and this evidence is based on only one trial with a small sample size. More randomised controlled trials evaluating different ways of treating apathy would be valuable. Trials should have larger sample sizes and use rigorous research designs and statistical analyses appropriate for examining between-group differences.

## Pain

### PSYCHOLOGICAL THERAPIES FOR THE MANAGEMENT OF CHRONIC PAIN (EXCLUDING HEADACHE) IN ADULTS <sup>4</sup>

Overall there is an absence of evidence for behaviour therapy (BT), except for pain immediately following treatment compared with treatment as usual (TAU). Cognitive behavioural therapy (CBT) has some small positive effects for pain, disability and mood. At present there is insufficient data on quality or content of treatment to investigate their influence on outcome. The quality of the trial design has improved over time but the quality of treatments has not.

CBT and BT have weak effects in improving pain. CBT and BT have minimal effects on disability associated with chronic pain. CBT and BT are effective in altering mood outcomes, and there is some evidence that these changes are maintained at six months.

### TRANSCUTANEOUS ELECTRICAL NERVE STIMULATION FOR ACUTE PAIN <sup>5</sup>

Of 1 479 studies identified in the search, 132 were identified as relevant. Of these, 116 were excluded; the vast majority of these were excluded due to TENS being given with another treatment. Four studies were categorised as awaiting classification as the information provided in the full text failed to clarify their eligibility. Twelve randomized control trials involving 919 participants at entry were included. The types of acute pain conditions included procedural pain, *e.g.*, cervical laser treatment, venipuncture, screening flexible sigmoidoscopy and non-procedural pain, *e.g.*, postpartum uterine contractions, rib fractures. It was not possible to perform a meta-analysis due to insufficient data.

Due to insufficient extractable data in the studies included in this review, it is not possible to make any definitive conclusions about the effectiveness of TENS as an isolated treatment for acute pain in adults.

#### *Physical therapy*

### TRANSCUTANEOUS ELECTRICAL NERVE STIMULATION (TENS) FOR PAIN RELIEF IN LABOUR <sup>6</sup>

The search identified 25 studies; we excluded six and included 19 studies including 1 671 women. Fifteen examined TENS applied to the back, two to acupuncture points and two to the cranium. Overall, there was little difference in pain ratings between TENS and control groups, although women receiving TENS to acupuncture points were less likely to report severe pain (risk ratio 0.41, 95% confidence interval 0.32 to 0.55). The majority of women using TENS said they would be willing to use it again in a future labour. Where TENS was used as an adjunct to epidural analgesia there was no evidence that it reduced pain. There was no consistent evidence that TENS had any impact on interventions and outcomes in labour. There was little information on outcomes for mothers and babies. No adverse events were reported.

There is only limited evidence that TENS reduces pain in labour and it does not seem to have any impact (either positive or negative) on other outcomes for mothers or babies. The use of TENS at home in early labour has not been evaluated. TENS is widely available in hospital settings and women should have the choice of using it in labour.

### *Orthopaedic rehabilitation*

### CONSERVATIVE INTERVENTIONS FOR TREATING MIDDLE THIRD CLAVICLE FRACTURES IN ADOLESCENTS AND ADULTS <sup>7</sup>

Three trials were included in this review. Two trials compared the figure-of-eight bandage with an arm sling in a total of 234 participants. Both trials were underpowered and compromised by poor methodology. One trial found slightly higher pain levels in the bandage group at 15 days (mean difference 0.80, 95% confidence interval 0.34 to 1.26; visual analogue scale: 0 [no pain] to 10 [worst pain]), and the other trial reported greater discomfort during bandage wear. There were no significant differences in functional or other outcomes reported for either trial. The third trial, which evaluated therapeutic ultrasound in 120 participants, was also underpowered but had a low risk of bias. The trial found no statistically significant difference between low-intensity pulsed ultrasound and placebo in the time to clinical fracture healing (mean difference -0.32 days, 95% CI -5.85 to 5.21 days) nor in any of the other reported outcomes.

There is insufficient evidence from randomised controlled trials to determine which methods of conservative treatment are the most appropriate for acute middle third clavicle fractures in adolescents and adults. Further research is warranted.

### *Workplace intervention*

### WORKPLACE INTERVENTIONS FOR PREVENTING WORK DISABILITY <sup>8</sup>

We included six randomized controlled trials (749 workers): three on low back pain, one on upper-extremity disorders, one on musculoskeletal disorders, and one on adjustment disorders. Five studies were rated as having low risk of bias for the sickness absence outcome. The results of this review show that there is moderate-quality evidence to support the use of workplace interventions to reduce sickness absence among workers with musculoskeletal disorders when compared to usual care. However, workplace interventions were not effective to improve health outcomes among workers with musculoskeletal disorders. The lack of studies made it impossible to investigate the effectiveness of workplace interventions among workers with mental health problems and other health conditions. A comparison of a workplace intervention with a clinical intervention, in one study only, yielded similar results for sickness

absence and symptoms for workers with mental health problems.

As a result of the few available studies, no convincing conclusions can be formulated about the effectiveness of workplace interventions on work-related outcomes and health outcomes regardless of the type of work disability. The pooled data for the musculoskeletal disorders subgroup indicated that workplace interventions are effective in the reduction of sickness absence, but they are not effective in improving health outcomes. The evidence from the subgroup analysis on musculoskeletal disorders was rated as moderate-quality evidence. Unfortunately, conclusions cannot be drawn on the effectiveness of these interventions for mental health problems and other health conditions due to a lack of studies.

### Discussion

Even in the issue 2-2009 of the Cochrane Library, the interest in the neurological rehabilitation showed to be really high. Three out of eight new reviews of rehabilitation interest dealt with this topic. The paper by Pringsheim found evidence about the efficacy of Pimozide in reducing tics in patients affected by Tourette's syndrome.<sup>1</sup> The other two papers failed to find pros and cons the treatments considered, because of the lack of reliable studies.<sup>2, 3</sup>

About chronic pain management, Eccleston found some evidence about efficacy of cognitive behavioural and behavioural treatment.<sup>4</sup>

Two papers, one by Walsh<sup>5</sup> and one by Dowswell,<sup>6</sup> tried to cover a huge gap in the field, that is the efficacy of physical therapy. Walsh found no evidence in favor of the application of TENS in acute pain, while Dowswell found a limited evidence for TENS to be useful for pain relief during labor.

For what concerns orthopedic topics, Lenza found

no relevant indication about conservative treatment of middle third of clavicle fractures.<sup>7</sup>

van Oostrom, dealing with workplace interventions, found some usefulness in reducing sick leave for musculoskeletal disorders with specific interventions.<sup>8</sup>

### Conclusions

New evidence and indications are now available, even if more studies are needed.

The Cochrane Collaboration and the Cochrane Library are really relevant instruments to improve evidence based medicine in medical practice and thus also in the rehabilitation field. The present paper can help rehabilitation specialists to easily retrieve the conclusions of the most relevant and updated reviews in order to change their clinical practice in a more rapid and effective way.

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