

Executive summary

Systematic review of outpatient services for chronic pain control

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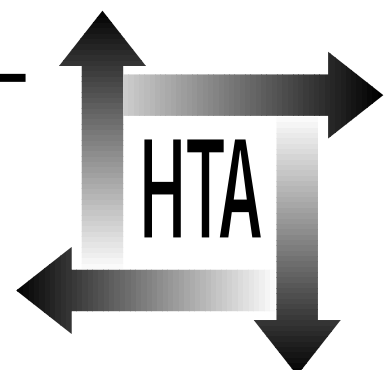
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Executive summary

Aim of report

This report reviews the evidence about the effectiveness of treatments for chronic pain. While treatment of chronic pain is usually seen as an integrated service, this report concentrates on the individual interventions that constitute the service.

How the research was conducted

Searches of databases and journals identified over 15,000 randomised studies with pain as an outcome, and many more which were not randomised. Over 150 systematic reviews relevant to chronic pain treatment were identified and their quality assessed using a simple scoring system. Systematic reviews conducted for this report were based mainly on randomised trials.

The number needed to treat (NNT) was chosen as the output for the report. NNTs of 2–4 indicate effective treatments. Because NNT is treatment-specific it overcomes problems associated with highly variable placebo or control event rates in pain trials. Such variability is predominantly due to the limited numbers of patients in the clinical trials.

Dichotomous outcome measures are important in synthesising information from many studies, and in deriving NNTs. Methods have been developed which allow mean information on pain relief and intensity to be converted reliably into the simple dichotomous outcome of at least 50% pain relief.

Research findings

Physical interventions

Transcutaneous electrical nerve stimulation (TENS) has been shown not to be effective in postoperative and labour pain. In chronic pain, there is evidence that TENS effectiveness increases slowly, and that large doses need to be used. There is lack of evidence for the effectiveness of TENS in chronic pain.

There is a lack of evidence for the effectiveness of **relaxation**.

Intravenous systemic regional blockade with guanethidine has been shown to be without effect.

Epidural corticosteroids are effective in the short term for back pain and sciatica.

Injections of corticosteroids in or around shoulder joints for shoulder pain have been shown not to be effective.

There is a lack of evidence supporting **spinal cord stimulators**. Case series are of poor quality and do not provide evidence of effectiveness, although at least 50% pain relief at 5 years is reported in over 50% of patients.

Pharmacological interventions

Minor analgesics are important in chronic pain. NNTs were calculated for analgesics given orally for moderate or severe acute postoperative pain. The NNTs found ranged from 17 (poor) for codeine, 60 mg, to 2.5 (good) for ibuprofen, 400 mg.

Anticonvulsant and **antidepressant drugs** are prescribed for neuropathic pains like diabetic neuropathy. NNTs are of the order of 2.5, showing them to be effective treatments. However, there are too few studies with too few patients to determine which is the best drug. Minor adverse events are common, and major adverse events occur in about 1 in 20 patients. There are no studies comparing antidepressants and anticonvulsants directly.

Systemic local anaesthetic-type drugs have been shown to be effective in nerve injury pain but there is little or no evidence to support their use in migraine or cancer-related pain.

Topical NSAIDs (for example, gels, creams) are effective in rheumatological conditions with an overall NNT of 3. There are too few studies to determine which is the best agent. Topical NSAIDs have few adverse events; most importantly they are without the major gastrointestinal adverse events found with oral NSAIDs, which might make them an important choice for some patients with peripheral arthritis.

In diabetic neuropathy, **topical capsaicin** has an NNT of 4, showing it to be effective, although the review contained no information about adverse events.

Psychological approaches

Cognitive-behavioural therapies provide strong evidence for efficacy across a range of mental health problems. Preliminary evidence from 35 trials in pain therapy demonstrates large and sustainable improvements in targeted outcomes.

Cost

While there is evidence that chronic pain clinics use interventions which provide pain relief for patients, there is little information on costs and benefits of chronic pain treatments. The evidence that is available suggests that pain clinics reduce overall direct healthcare costs by about £1000 per patient per year. The evidence indicates that pain clinics generate direct health service savings equal to twice their running cost.

Conclusions

The findings show that there is excellent evidence of effectiveness for some common treatments for chronic pain, good evidence that some treatments

are without effect, and a lack of evidence of effectiveness for some commonly-used treatments.

With regard to costing services, chronic pain units may save the National Health Service substantial sums by caring for patients and minimising unnecessary consultations and investigations. Given that there is substantial evidence for efficacy and inefficacy of individual interventions, the ideal would be for a process analysis approach to chronic pain services. This could well establish a model for other chronic services.

Research recommendations

- High quality randomised trials are needed in a number of different areas.
- The establishment of a single UK centre to organise and advise on large multicentre chronic pain studies may be appropriate.

Publication

McQuay HJ, Moore RA, Eccleston C, Morley S, de Williams AC. Systematic review of outpatient services for chronic pain control. *Health Technol Assessment* 1997; **1**(6).

NHS R&D HTA Programme

The overall aim of the NHS R&D Health Technology Assessment (HTA) programme is to ensure that high-quality research information on the costs, effectiveness and broader impact of health technologies is produced in the most efficient way for those who use, manage and work in the NHS. Research is undertaken in those areas where the evidence will lead to the greatest benefits to patients, either through improved patient outcomes or the most efficient use of NHS resources.

The Standing Group on Health Technology advises on national priorities for health technology assessment. Six advisory panels assist the Standing Group in identifying and prioritising projects. These priorities are then considered by the HTA Commissioning Board supported by the National Coordinating Centre for HTA (NCCHTA).

This report is one of a series covering acute care, diagnostics and imaging, methodology, pharmaceuticals, population screening, and primary and community care.

The views expressed in this publication are those of the authors and not necessarily those of the Standing Group, the Commissioning Board, the Panel members or the Department of Health.

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