Acupuncture for chronic pain and depression in primary care: a programme of research

BACKGROUND:
There has been an increase in the utilisation of acupuncture in recent years, yet the evidence base is insufficiently well established to be certain about its clinical effectiveness and cost-effectiveness. Addressing the questions related to the evidence base will reduce uncertainty and help policy- and decision-makers with regard to whether or not wider access is appropriate and provides value for money.

AIM:
Our aim was to establish the most reliable evidence on the clinical effectiveness and cost-effectiveness of acupuncture for chronic pain by drawing on relevant evidence, including recent high-quality trials, and to develop fresh evidence on acupuncture for depression. To extend the evidence base we synthesised the results of published trials using robust systematic review methodology and conducted a randomised controlled trial (RCT) of acupuncture for depression.

METHODS AND RESULTS:
We synthesised the evidence from high-quality trials of acupuncture for chronic pain, consisting of musculoskeletal pain related to the neck and low back, osteoarthritis of the knee, and headache and migraine, involving nearly 18,000 patients. In an individual patient data (IPD) pairwise meta-analysis, acupuncture was significantly better than both sham acupuncture \((p < 0.001)\) and usual care \((p < 0.001)\) for all conditions. Using network meta-analyses, we compared acupuncture with other physical therapies for osteoarthritis of the knee. In both an analysis of all available evidence and an analysis of a subset of better-quality trials, using aggregate-level data, we found acupuncture to be one of the more effective therapies. We developed new Bayesian methods for analysing multiple individual patient-level data sets to evaluate heterogeneous continuous outcomes. An accompanying cost-effectiveness analysis found transcutaneous electrical nerve stimulation (TENS) to be cost-effective for osteoarthritis at a threshold of £20,000 per quality-adjusted life-year when all trials were synthesised. When the analysis was restricted to trials of higher quality with adequate allocation concealment, acupuncture was cost-effective. In a RCT of acupuncture or counselling compared with usual care for depression, in which half the patients were also experiencing comorbid pain, we found acupuncture and counselling to be clinically effective and acupuncture to be cost-effective. For patients in whom acupuncture is inappropriate or unavailable, counselling is cost-effective.

CONCLUSION:
We have provided the most robust evidence from high-quality trials on acupuncture for chronic pain. The synthesis of high-quality IPD found that acupuncture was more effective than both usual care and sham acupuncture. Acupuncture is one of the more clinically effective physical therapies for osteoarthritis and is also cost-effective if only high-quality trials are analysed. When all trials are analysed, TENS is cost-effective. Promising clinical and economic evidence on acupuncture for depression needs to be extended to other contexts and settings. For the conditions we have investigated, the drawing together of evidence on acupuncture from this programme of research has substantially reduced levels of uncertainty. We have identified directions for further research. Our research also provides a valuable basis for considering the potential role of acupuncture as a referral option in health care and enabling providers and policy-makers to make decisions based on robust sources of evidence.