

Researchers reveal lack of evidence for drugs prescribed to treat chronic pain in children

June 26 2019, by Andy Dunne



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Decisions to prescribe children drugs to treat chronic pain are not guided by sufficient, high quality evidence, according to an important new study published today.

Published as part of a special collection of systematic reviews in the Cochrane Library and recently summarised in the journal *PAIN*, the overview highlights a dearth of information available about treating childhood chronic pain and concludes that much more needs to be done to improve the quality and quantity of evidence available. It is led by researchers at the University of Bath in collaboration with an international team of researchers and physicians.

In adults, chronic pain lasting for three months or more is known to have a devastating effect. What is less well known is that one in five [children](#) also report chronic pain, which is both distressing and disabling for children and their parents.

But the new study reveals a stark contrast between the evidence available for the drugs used to treat adults with chronic pain, compared with that conducted in children. For adults with chronic pain, 300,000 patients have been studied in hundreds of individual randomised control trials. Yet only 393 children have participated in just six trials ever undertaken.

The research is a summary of all available systematic reviews of studies in this area and is supported by the National Institute for Health Research (NIHR), Versus Arthritis and also involves Bath's Centre for Pain Services (part of the RUH Foundation Trust).

The team who prepared the overview stress that lack of evidence does not mean evidence of no effect. But they argue there has been very little investment in researching which drugs can best help children with chronic pain and suggest that this issue should be urgently addressed to increase confidence that children are getting the [best treatment](#).

They describe the disparity of knowledge between adults and children—a ratio of around 1000:1—as 'unacceptable' and suggest that the lessons learnt from research conducted on adults cannot 'simply be

applied to children' whose biology and metabolism work differently.

The most common types of chronic pain experienced by children include recurrent abdominal pain, headaches and migraines, and musculoskeletal pain. Children who suffer from chronic pain regularly miss school, become isolated and have more anxiety and depression compared to children without pain. Drug therapy is typically the first resort for treatment.

Professor Christopher Eccleston, Co-ordinating Editor for the Cochrane Pain, Palliative and Supportive Care Review Group and Director of the Centre for Pain Research at the University of Bath, who led the overview, explained: "Overall, there is no high-quality evidence to help us understand the efficacy or safety of the common drugs used to help children with chronic pain. The lack of data means that we are uncertain about how to optimally manage pain. Doctors, children and their families all deserve better.

"This study is a collective effort from 23 leading researchers and physicians from around the world. Healthcare policy-makers need to grapple this issue if we are to break down the barriers that exist to producing sufficient evidence in paediatric chronic pain pharmacotherapy."

The team acknowledges that there are practical and ethical barriers to conducting randomised control trials on children, but suggest that these are no different from other areas of paediatric pharmacological research.

Co-author Dr. Emma Fisher, Versus Arthritis Research Fellow from the Centre for Pain Research at the University of Bath, added: "Children are not just small adults so we cannot simply extrapolate evidence acquired from adults and use it in children.

"With the evidence available currently we cannot say for sure whether the drugs used are the best approach. Yet at the current rate of clinical trial reporting—only one every 3.5 years—it would take us over 1,000 years to have a good enough evidence base to properly inform decisions. This lack of knowledge requires new funding and urgent attention."

Stewart Long, Director of Involvement and Services, at Versus Arthritis who supported the study, said: "Living with chronic pain can have a profound physical, emotional and [psychological impact](#), particularly in children. It can stop them joining in things other young people do and affect development of friendships. This can lead to isolation, making children more likely to suffer from anxiety and depression and affect their ability to fulfil their potential and maintain their future aspirations.

"Despite the scale and impact of chronic pain, as well as its socio-economic cost, there is a serious lack of research into effective treatments for adults and children alike. We urgently need chronic pain to be prioritised in policy, funding and research so that the millions of people living in pain today, regardless of their age, are better supported."

Dr. Jacqui Clinch, Medical lead consultant for young people at the national Bath Centre for Pain Services explained: "Within BCPS we see and treat children and adolescents from across the UK who have suffered pain and pain associated difficulties often for years. These young people, in addition to overwhelming pain, develop sleep disturbance, memory and concentration difficulties, muscle weakness, cramps, numbness, nausea, and many other pain related symptoms.

"They transform from physically and socially active individuals to missing school, physically inactive and housebound. In short, their lives, and those of their loved ones, fall apart. Our unique dedicated multidisciplinary team has delivered successful rehabilitation for these young people and carers for over 20 years. As part of the international

pain community, we strive to optimise research into both further understanding pain pathways in [young people](#) and exploring new interventions to alleviate suffering in this vulnerable population and their families."

Other non-drug-based treatments are also available to children and adolescents with [chronic pain](#). Psychological therapies, such as cognitive behavioural therapy (CBT), show small effects at reducing [pain](#) and disability in this population, but once again the evidence needs to be improved.

The researchers suggest funding and incentives are needed to drive this field forwards in order to deliver evidence-based research that doctors treating patients can reliably use to inform their decisions.

More information: Christopher Eccleston et al, Pharmacological interventions for chronic pain in children, *PAIN* (2019). [DOI: 10.1097/j.pain.0000000000001609](#)

Provided by University of Bath

Citation: Researchers reveal lack of evidence for drugs prescribed to treat chronic pain in children (2019, June 26) retrieved 25 April 2024 from <https://medicalxpress.com/news/2019-06-reveal-lack-evidence-drugs-chronic.html>

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