

## Overdose due to dental pain

Dental pain management – a cause of significant morbidity due to paracetamol overdose

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### Harm and benefit

In healthcare the balance between doing good and doing no harm is always a difficult one to call. The use of paracetamol as an over-the-counter analgesic is a very common occurrence for a variety of pain-relief situations, one of which is oral or dental pain. Self-medication can of course be for many reasons but one of which is fear of the dentist and this can manifest both in the reasons for the pain, i.e. failure to attend for routine and preventive care and the reason for staying away when in pain, i.e. the hope that the pain killer will negate the need to attend.

It is perhaps surprising to discover just how widespread abuse, or overdosing of paracetamol is in the UK and this paper lifts the lid on some startling statistics in terms

of patients involved and numbers of hospital admissions. Not only is the health and safety of the overdosing individuals at risk but the cost to the NHS as well as the use of resources which might otherwise be redirected is considerable. This again calls into question of where the balance lies between doing good and doing no harm.

One obvious response to this research is to seek ways in which to solve the problem and to bring into safety those who misuse paracetamol. An immediate answer would be an awareness exercise in educating us all about the safe dosage limits of the drug. Interestingly a survey of dental professionals disclosed a paucity of knowledge on this too. Surely we, medical and pharmacy colleagues could play an important role in this? The ongoing need

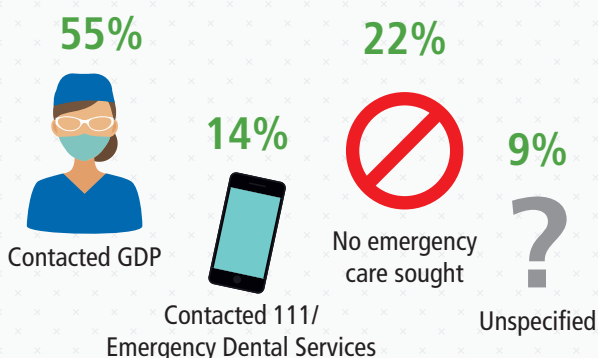
to encourage regular attendance at the dentist as well as all the familiar routes to good oral health are other obvious steps; but clearly these are failing a significant section of the population.

Better co-ordinated emergency services have been ceased upon as requiring necessary revision and there is much to be said for this too. Easier availability of out of hours pain relief may well help to curb some of the apparent need for excesses of taking pain killers over a short time period. This, of course, also comes at a cost of time, money and resources and, once again we have to look at balances of these elements. However, at the end of the day it is no surprise that it is education which once again heads the 'to do' list.

By Stephen Hancocks

The **BDA** has estimated that around **135,000** dental patients attend **A&E** per year at an annual cost of nearly **£18 million** – with over **95,000** cases of toothache coming in at **£12.5 million** – while a further **600,000** patients a year seek treatment from **GPs\***

### Access to emergency dental services prior to ED attendance



An average of **at least three** individuals presenting **each week** to the emergency department studied having overdosed with paracetamol as a direct result of toothache

Neither GPs and A&Es are equipped to treat dental pain. Dental pain usually requires specialised and time-consuming surgical intervention by a dentist. GPs and A&Es can only provide temporary pain relief or inappropriate antibiotics.

\*BDA press release available online at <https://bda.org/news-centre/press-releases/Access-problems-leaving-dental-patients-at-overdose-risk>

**Author Q&A**

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**What led you to study paracetamol overdose?**

While working as an on-call dental core trainee, it was almost the norm to receive at least one call from medical colleagues during an on-call week or weekend regarding patients with toothache. In most cases, these patients had taken too many paracetamol tablets, and found themselves on a medical ward receiving treatment for their overdose. Many of these patients

would still be in pain when assessed by the on-call maxillofacial team. A genuine intrigue into how and why these overdoses came to be, and what became of these patients, was the main trigger for undertaking this study.

**Why do you feel there is such a lack of awareness about safe self-medication?**

I feel paracetamol is perceived as being a 'safe' go-to option for the initial management of dental pain by the general population, and it is this perception that perhaps lulls patients into a false sense of security when tempted to exceed the recommended doses on the packaging if their pain is not settling. Taking as few as one or two paracetamol tablets too many has the potential to cause liver damage. A clear and overt warning on paracetamol packaging about the risks of taking too many

tablets would certainly send out a much-needed public health message.

**Did any of the results in the study surprise you?**

The number of patients affected was higher than anticipated, with an average of over three patients per week attending Accident and Emergency. It was also surprising that twice as many of these patients came through our hospital doors during the week compared to weekends. Sixty-nine percent of the patients in our study had contacted their own registered dentist or the local emergency dental service but had been unable to secure an appointment. It is a cause for concern that despite the wide availability of primary care emergency services in the area, these patients struggled to receive necessary intervention to treat their pain. ■

**How easy is it to take more than the adult daily recommended 4 g paracetamol?**

1 tablet or sachet of branded drug Paracetamol (500 mg)

Branded drug (mg per tablet or sachet)	24 hour maximum dose*	Paracetamol	mg over stated dose
Lemsip Cold & Flu sachets (650 mg)	+	=	100 mg over
Beechams Cold & Flu sachets (600 mg)	+	=	100 mg over
Solpadeine Plus (500 mg)	+	=	500 mg over
Co-codamol (500 mg)	+	=	500 mg over
Co-dydramol (500 mg)	+	=	500 mg over
Anadin extra (200 mg)	+	=	200 mg over
Paramax (500 mg)	+	=	500 mg over
Migraleve (500 mg)	+	=	500 mg over
Benylin Cold & Flu Max Strength Capsules (500 mg)	+	=	500 mg over

Note: The daily recommended dose for paracetamol is 4 g per day in adults weighing 50 kg or above. \*According to advised maximum dosage data per 24 hour period as shown on product data widely available on Boots.co m, www.lloydspharmacy.com and www.medicines.org.uk/emc as on 3 May 2018.

**Early signs of paracetamol poisoning**



Nausea and vomiting are the only early signs of paracetamol poisoning, and usually settle within 24 hours of onset.



Right subcostal pain and tenderness