Reviewer's report

Title: Overuse of Non-Prescription Analgesics by Dental Clinic Patients

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Reviewer: Elliot V Hersh

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This is an important topic but some additional information needs to be provided prior to publication.

1) Introduction, page 4, first line: Insert the word "emergency" prior to care. (minor essential)

2) Introduction, page 4, second paragraph: It's not just NSAID dose that increases relative risk but it is also duration of use as far as GI bleeding risk and certainly probably other toxicities (renal). You need to say something about this. See for example Lewis JD et al: Risk of Serious Upper Gastrointestinal Toxicity with Over-The-Counter Nonaspirin Nonsteroidal Anti-inflammatory Drugs. Gastroenterology 2005;129:1865-1874. (minor essential)

3) You need to say something about exactly what OTC dosing guidelines of analgesic means (compared to prescription dosing). It's bad enough that many patients don't understand this concept but unfortunately most clinicians in various specialties don't either. Put together a table of what constitutes OTC dosing for the various agents you describe. For example see Hersh E.V., Moore P.A. and Ross GA. Over-the-counter analgesics and antipyretics: a critical assessment. Clin. Ther.22:500-548, 2000. (major compulsory)

4) You really need a table in this paper illustrating the dosing patterns of the 14 subjects that were using supratherapeutic doses of the various agents. In other words the table should include which drugs they were taking, how much of each agent they were taking a day, and were they unwittingly taking two product with the same components. It's important to see if any of these supratherapeutic doses were really clinically significant. For example if someone was taking 1600 mg of ibuprofen per day day for 3 days - I'm not that concerned about that (even though its about the 1200 mg max per day for OTC use). However if you have some individuals taking 8 grams of acetaminophen per day for a week - that certainly is of more clinical significance. Also did any of these individuals that you surveyed show signs of overt toxicity. - You need to state this in your results (whether there were any or none) because if there were none it's still an indication of the relative safety of these agents at least with short-term use. (Major compulsory revision)

5) Discussion section, page 10, 2nd paragraph: Again it's important to indicate by how much these subjects were exceeding recommended OTC doses. (minor essential revision)
6) And in the 3rd paragraph of the discussion, remember the incidence and severity of adverse effects is related to both dose AND DURATION of therapy. (minor essential).

7) Discussion - I think you need to comment that patients with moderate to severe dental pain of nonsurgical origin typically from dental caries that has invaded the pulp chamber of the tooth not only self medicate with OTC analgesics but also get their hands on (by whatever means - either have left overs from a previous prescription, get it from an emergency room or get it from a friend) prescription analgesics more often than not acetaminophen/narcotic combination drugs. In fact generic acetaminophen plus hydrocodone is the most frequently prescribed medication (not just pain reliever but compared to everything) in the United States. And when these patients have unremitting pain they often over-medicate with these also (sometimes not being aware that the drug doesn't just contain a narcotic) and as you stated sometimes combine it with OTC acetaminophen. You can go to the top 300 prescribed drug web site to get the 2007 numbers and/or look at Hersh E.V., Pinto A, Moore P.A. Adverse drug interactions involving common prescription and over-the-counter analgesics. Clin. Ther 29[Theme Issue]:2477-2497, 2007 which refers to the 2006 rankings (4 products containing acetaminophen were in the top 200 prescribed drugs at this time). (essential minor revision)

8) Discussion, Top of page 11, first sentence: Again it's not just the patient that needs further education but a number of clinicians in various specialties. (essential minor)

9) Discussion, you need to elaborate more as far as improved patient education being needed. I actually think the current labeling of OTC's in the United States is pretty good and if anything the warnings of exceeding recommended doses or combining the drugs with alcohol are currently on the severe side. Again the problem is that we have a whole group of patients - not just in dental medicine but in need of all sorts of health interventions - because of their socioeconomic status make a habit of only showing up at emergency clinics or emergency rooms. Unfortunately with regards to preventative dental care in the United States, it's unfortunately a luxury for a segment of the population and they wait until they are "at the end of their rope" typically with unremitting pain to finally get treatment - and they've typically been self medicating for at least several days with variable and temporary sucess. I know this because I'm currently performing a double-blind, randomized placebo-controlled clinical trial on this population of OTC topical toothache medications and we do record any concommittant meds they've been taking for the previous 72 hours. (essential minor)

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a
Declaration of competing interests:

Have received grants from Wyeth Consumer Healthcare (makers of the Advil product line - Advil contains ibuprofen. Have not received a grant to study an Advil product in over 5 years but currently are the recipient of grant to study topical benzocaine products in toothache pain which is jointly being funded by Church and Dwight and Wyeth. Have done consulting for Wyeth Consumer Healthcare in the past ($5000 or less per year) - none in the previous year.