Reviewer's report

**Title:** Cause for concern in the use of non-steroidal anti-inflammatory medications in the community - a population-based study.

**Version:** 1  **Date:** 22 February 2011

**Reviewer:** Treasure McGuire

**Reviewer's report:**

1. Discussion 1st paragraph & Table 2

   Narrative states

   “Over half of people reporting NSAID use had hypertension, mostly uncontrolled”

   However Table 2 definition is

   “**Hypertension: systolic #140 mm Hg and/or diastolic #90mm Hg or use of anti-hypertensive medication.**”

   As the data in Table 1 does not differentiate between patients with hypertension that is well controlled on antihypertensives and those with hypertension not well controlled on antihypertensives, however can the authors claim “mostly uncontrolled”. Please clarify this point.

2. Discussion (paragraphs 2 & 4) - Error/lacks clarity in interpretation

   Some of the implications of results and concepts introduced to explain the results lack clarity. The authors need to decide whether the implications of key results relate to NSAID prescribers or NSAID users. A major flaw or study limitation was not acknowledged by the authors (and that could have been overcome in a study where patients actually brought in ALL their medication) was that the authors have not differentiated n-NSAID use that was clearly OTC (self directed) vs prescribed or prescriber recommended (even if purchased OTC).

   As such, the study implications on the issue of whether clinician knowledge has minimal / no effect on NSAID prescribing can only be really be discussed in the context of COX-2 inhibitors (not n-NSAIDs). The issue of whether consumer knowledge of risk has minimal /no effects on NSAIDs has really not been clarified by these study results as we cannot differentiate the proportion of use that was truly patient initiated/controlled.

   The most important message for me from these data is that prescribers (specially wrt COX-2 inhibitors) are considering GIT but not considering or ignoring the cardiovascular & renal risks of these drugs before prescribing these medications. This issue could be further emphasised. However, when the issue is pursued in 4th paragraph of the discussion where increased clinician knowledge has minimal / no effect on NSAID prescribing, the narrative appears to suddenly jump from - the issue of prescriber perceptions of the importance of treatment risks in relation to prescribing to - perceptions of NSAID risks on NSAID use in NSAID
users. Unless the authors have valid data to support on the latter issue, it may be better to not confuse these issues in the discussion.

Minor Essential Revisions

The author can be trusted to make these. For example, missing labels on figures, the wrong use of a term, spelling mistakes.

3. In Statistical analysis

The cohort attended follow-up in 2004-2006. However, data were weighted to the 1999 the 1999 Estimated Residential Population and 2001 Census for South Australia by region, age group, gender, and probability of selection in the household, to provide population representative estimates. Has there been are more recent census ABS report for comparison than the 2001 report for Adelaide below?


4. In Results 2nd paragraph

“Over 30% of people taking NSAIDs had Stage 3 or higher chronic kidney disease.”

This sentence lacks clarity. What percentage over 30% - 40%, 70% etc??? While technically correct, the statistic was 30.8%. It would be clear to say 31% or approximately a third, so as not to artificially imply a higher percentage. I would be even more concerned if e.g. 75% of patients with significant renal impairment were taking NSAIDs.

Discretionary Revisions

(which are recommendations for improvement but which the author can choose to ignore)

5. Discussion, 2nd paragraph line 5

Philosophical point only- As is appropriate, most results included in the discussion go onto to have a follow-on sentence “This suggests …” However there is no discussion point in relation to

“Unlike COX-2 inhibitors, there was no association of increasing use of ns-NSAIDs with advancing age. Also there was no association with education level and COX-2 use, as distinct from ns-NSAIDs where a tertiary education was associated with less use of ns-NSAIDs.”

It would be more appropriate for this sentence to move to the results section.
Overall comments:

# The question posed by the authors is well defined – i.e. what is the prevalence of NSAID use, any presence of chronic conditions and any contraindications to NSAID use in a representative population sample of Australian adults?

# The methods are clearly described
o The robustness if the NWAHS as a representative biomedical population is justified.
  o Risk factors and chronic diseases of interest are defined.

# Data is basically sound
o While the demographic profile of the cohort participants gathered in 2004-06 are well described (& previously published), data has been weighted using 2001 census data.
  o Appropriate comparative data were gathered - clinical measurements, information on health behaviours, health service utilisation, doctor diagnosed comorbidities, symptoms of joint pain & all medication.
  o Statistical analysis is appropriate for the data gathered and associations described.

# The manuscript does appear to adhere to relevant standards for reporting and data deposition.

# All results are tabulated.

# While the Discussion is generally well balanced, it does over extrapolate findings in relation to consideration of risk when prescribing to all NSAIDs, when this can only be justified from data presented to COX-2 inhibitors (as n-NSAID use has not been sub-classified by the proportion of used that was OTC/self managed vs prescribed use). Similarly, the implications of findings in relation to consideration of risk to NSAID users cannot really be substantiated without this sub-categorisation.

# While most limitations of the work are clearly stated, the lack of sub-classification of n-NSAID use by was prescribed vs self-managed is a clear limitation to being able to clearly extrapolate study results (as described above & below).

# The authors have clearly acknowledged key published works upon which they built on. I cannot comment on unpublished works in the field.

# The title and abstract accurately convey what has been found, 

# The writing is acceptable .

**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 statistician.

Declaration of competing interests:
I declare that I have no competing interests