Reviewer's report

Title: Do advertisements for antihypertensive drugs in Australia promote quality prescribing? A cross-sectional study

Version: 1 Date: 5 February 2008

Reviewer: Richelle Cooper

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Title: Do advertisements for antihypertensive drugs in Australia promote quality prescribing? A cross-sectional study

This well-written manuscript presents the results of a nicely designed and well-executed cross-sectional study of antihypertensive advertisements. The methods are well-thought out and detailed, allowing readers to determine what was done, and allowing interested researchers to replicate the study. The authors report how they established the rating criteria and the choice of journals and advertisements selected seems appropriate and unlikely to introduce any bias. The tables succinctly summarize the content and findings. Finally, the limitations are appropriately considered, with the exception that some may argue with the premise, and the question noted in minor revision comment 3 below.

While there are no appreciable threats to the internal validity of the study, the main issue seems to be conceptual with the basic assumption for the study question. It seems the basic assumption one must agree with is that advertisements for specific pharmaceutical products should be promoting what is reported in a developed guideline, or a summary of many guidelines. There are guidelines developed by those with vested interests that may not be evidence-based, or may be based on selective evidence. In addition, some guidelines conflict with one another. More importantly for many conditions there is insufficient evidence for a quality guideline. Similarly there are many cost-effectiveness analyses, many performed by those with vested interests and with variation of assumptions frequently those that fund the study find that their product is the most cost-effective option.

I am not sure that this basic assumption, that a regulation that advertisements are not misleading and promote a balanced message means that must provide the content of a guideline or evidence review, is one that many would agree with. Pharmaceutical promotion is about selling a product. There are statements by Pharma that they use advertisements to educate MDs, but that is to educate them about their product. I have not seen a claim by Pharma that their advertisements are purporting to synthesize all best available evidence. It is thus not surprising that the authors found the results they did. (The advertisements are not to promote inexpensive generic medicines, or lifestyles that would decrease the need to use the pharmaceutical product. HCTZ is generic, but if it is included in a combination pill, that would be a new patented medicine.) I think
one could argue the premise or assumption seems to be more opinion that pharma ads should include an evidence-based review. While laws in most countries regulating pharmaceutical advertisements require the advertisement not be misleading or inaccurate (among other requirements), I am unaware of any country which includes a requirement for synthesis of all data, evidence, guideline content in an advertisement. I am not sure many pharmaceutical companies want to place ads that are not about promoting their drug but promoting a guideline.

While I make this criticism, I do not think this is a fatal flaw. I think that is the reason for discourse and commentary. The premise of the study is laid out by the authors and the study was well conducted, readers will have to judge for themselves if they agree with the premise.

Minor essential revision:

1. page 4, last para of the introduction. This paragraph seems best if moved to the methods section as it describes your review of guidelines and development of the quality checklist. In addition, a little more detail about how this review was done (how you selected which guidelines to include, and which publications to include) and any assessment of the content of the final checklist would be helpful. The cynic or critic might say you chose only those guidelines that agree with your point of view. The fact that you provide the actual checklist is essential and shows readers and researchers, who can do their own assessment of face validity. The criteria are used are ones that I think most would agree with.

2. page 5, methods para 2. You report that you included the largest advertisement for each antihypertensive drug. Please clarify what you mean by largest, the advertisement that covered the most pages even if those pages were pictures and not text? Or do you mean the advertisement with the most text or claims? In addition, frequently the same advertisement will run in more than one journal. Did you select only unique advertisements, so that no advertisement was rated or counted twice?

3. top of page 6, methods para 3. You report you examined each entire advertisement including contiguous fine print but then state you excluded the fine print form your review. Regulating bodies allow the advertisements to use fine print, and often that is where side effects and other information may be included. E.g. It may be that the fine print is where the advertisement would mention that exercise and a healthy lifestyle should also be promoted. Excluding the fine print may bias your study to underestimate some of the quality content. It might be better to re-review this content are and present the data, and then stratify where the content was found, although that is not essential. If no change is made I would say you should provide a rationale for your choice and you need to discuss this as a limitation.

Discretionary revisions:

1. page 5, Methods. The section begins without much introduction and continues
the thought of the last paragraph. I think a brief introductory sentence of paragraph that provides an overview would set up the methods section better. Eg We performed a cross-sectional survey of â¦., using a quality checklist that we developed. (Then the details of the checklist development, selection of journals etc as is already reported).

2. results para 4. You mention independent rating of advertisement sand then adjudication of disagreements. Did you assess interrater reliability? It is not mentioned in the results.

3. Statistical analysis. This paper is descriptive and provides estimates for the chosen outcomes. That is most appropriate, but you may wish to include a concluding statement that states that. I also assume that some software was used for the database, and for summarizing results. A standard element of ICMJE is to note the software used for analysis.

**What next?:** Accept after minor essential revisions

**Level of interest:** An article of limited interest

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I do not have any financial competing interests.

I am interested in the topic discussed and have published papers that review the content of pharmaceutical advertisements. I include this as a potential non-financial competing interest.