Reviewer's report

Title: Comparison of Published Orthopaedic Trauma Trials Following Registration in Clinicaltrials.gov

Version: 2 Date: 18 October 2011

Reviewer: Sigurd Liavaag

Reviewer's report:

Reviewer's report concerning article 'Comparison of Published Orthopaedic Trauma Trials Following Registration in Clinicaltrials.gov'

Rajiv Gandhi, Meryam Jan, Holly N Smith, Nizar N Mahomed and Mohit Bhandari
BMC Musculoskeletal Disorders Correspondence

Dear editor: Thank you for giving me the opportunity to review this paper which I found interesting although I also found it necessary to come with major compulsory revisions comments which I hope the author can answer.

Sincerely : Sigurd Liavaag

- Major Compulsory Revisions (The author must respond to these before a decision on publication can be reached.)

The author state that: Our primary objective was to determine publication rates for orthopaedic trauma trials registered with ClinicalTrials.gov. We further evaluated methodological consistency between registration and publication.

and in Methods: We searched Clinical Trials.gov for all trials related to orthopaedic trauma.

Search Strategy

We performed a search of orthopaedic trauma trials with the www.ClinicalTrials.gov database in duplicate (MJ, HS) using the search terms (orthopaedic trauma OR orthopedic trauma). This resulted in 264 registered trials up to and including July 2010.

Reviewers comment 1:

When we ourselves searched in Clinical trial gov by selecting the category Wounds and injuries and further searched for the Condition Fracture bone we found 728 studies and for the condition Radius fracture we found 53 studies and for Tibia fractures 41 studies and for Sprains and strains we found 114 studies
registered in clinical trials. This was all studies registered up till the present date but all together this make 936 studies and most of these studies probably fits to the category orthopedic trauma. In addition there are many other conditions which also may fit the issue orthopedic trauma.

I wonder if the search strategy of the authors makes a serious bias possible by losing a lot of studies which are registered in clinical trials.gov. I would appreciate if the authors could explain their search strategy better and answer the question if their search strategy may underestimate the number of orthopedic trials registered? Would it not be better just to use one of the defined conditions in clinical trials.gov? This would make it easier to judge the validity of the results. In this study the validity of the result is difficult to judge because it seems as many trials representing studies orthopedic trauma has not been included at all. The high number of excluded studies (Out of 130 closed studies were 67(52 %) excluded simply because the completion date was expected to be after a certain date), also makes it hard to judge the validity of the results.

The author also state under methods and search strategy that:

This resulted in 264 registered trials up to and including July 2010. The search was further narrowed to closed studies with the understanding that studies still actively recruiting participants are unlikely to have publications. Refining the search resulted in 130 closed studies. We decided to review studies with an estimated completion date up to and including July 2009 to allow adequate time for preparation and submission of a manuscript.

Reviewers comment 2:

It seems to me that the author than have decided that for the studies closed in 2009 one to one and a half year must be adequate time for preparation, submission and also waiting for eventually approval of the study. In some of the journals it probably takes more time (ex: JBJS AM). Do the authors have any data considering the median time from closure of a study until publication or do the authors know anything about the median time from submission until publication or decision for approval of a paper in the different journals?

Results

Literature Search

After refining the search that resulted in 264 trials to exclude ongoing studies (n=134), there were a total of 130 closed studies that were included in our assessment. Of these, we excluded those trials with a completion date after July 2009 (n=67) and a further 7 that did not include a completion date within the database. We also excluded non-randomized and observational studies.

Reviewers comment 3: The authors simply repeat a lot of the information given under methods. You must take a decision what belongs to method and what
This left 37 eligible trials for final inclusion. Agreement for final inclusion between reviewers was excellent. (Kappa=0.79; 95% confidence interval, 0.46 to 0.94).

Reviewers comment 4:

Which agreement criteria were evaluated to find a kappa and CI? How many studies were evaluated for final inclusion and were these evaluations made “blinded” in the meaning that the reviewers had no information how the others evaluated?

Consistency Between Trial Registration and Publication

Of the 10 publications (52.6%) with an inconsistent sample size, 7 had a smaller sample than the one reported in CTG [6,11,13,15,19,20,22], and 3 had a larger sample [14,21,23]. The sample size discrepancy in all publications differed from the original figure by a minimum of ± 6%.

and further down it was stated: Two of the 20 publications (10%) had a major discrepancy with the registry.

In the conclusion it was simply stated that: Moreover, changes are frequently made to the final presentation of the data that are not reflected in the registry of the trial.

Reviewers comment 5:

The conclusion is not wrong but the sentence does not reflect the main message of the results.

I would say when 90 % of the publications did not have major discrepancy and sample size discrepancy was only ± 6% than it may be better to change the conclusion to: Only 10 % of the publications had major discrepancy between trial registry and publication, but smaller changes are frequently made to the final presentation of the data that are not reflected in the registry of the trial.

- Minor Essential Revisions (The author can be trusted to make these)

Reviewers comment 6:The aim of a mandatory registration is to avoid publication bias and especially the previous underreporting of studies with statistically non significant outcomes. In the discussion the authors simply state that they are unable to determine the reason for trials failing to result in publication but suggest that all journal should make registration of clinical trials mandatory. Although they cannot tell the reason they can have some reflections concerning this topic.

Here are some suggestions

How high is the rate of publication in the different journals in general?

Should one expect a higher rate of publication for studies registered in clinical trials .gov?
Do other international register than Clinical Trials.gov exist?
Many countries (example Scandinavian) have mandatory registration of all protocol for clinical trials and protocol can be asked for, is that enough?

Discretionary Revisions (These are recommendations for improvement which the author can choose to ignore.)

Reviewers comment7 :If only a certain percentage of papers are expected to be published in the different journals out of capacity and quality criteria and if theoretically all journals make clinical trials mandatory for publication, do that solve the problem of publication bias?

Reviewers comment8 :In the discussion I miss some few comments concerning potential negative effects of a mandatory registration of trials ?Time consuming? difficult ? or good ideas on small places can be picked up/”stolen” very soon from big centres which than may be the first ones to accomplish the study because they have more resources and patients?

Level of interest: An article whose findings are important to those with closely related research interests

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.

Sigurd Liavaag