

**Aim: To evaluate the quality of research of published studies in journals that cover fertility issues**

## Background

- Infertility is a topic that has been widely studied and published at the Cochrane Collaboration
- However, we ignore the proportion of randomized controlled trials (RCTs) published in peer-reviewed journals
- Infertility is not an easy topic to study, as treatments are financially and emotionally costly
- Evaluating the proportion of published systematic reviews (SRs) and RCTs might constitute a good landmark to know where this specialty stands and to establish the present trend of its publications

## Methods

- We selected the five journals of reproduction medicine with the highest 2011 impact factor
- A research has been performed at Pubmed identifying the potential SRs with meta-analysis (limits, type of article: Meta-analysis) and potential RCTs (limits, type of article: Randomized Controlled Trial) between 2006 and 2010
- Number and proportion of potential SRs with meta-analysis and RCTs over all the retrieved studies in that period were analyzed
- We identified the actual RCTs published in 2010, analyzing each potential retrieved RCT by pairs of independent reviewers, evaluating the titles and abstracts
- Two reviewers randomly selected, extracted and independently assessed the methodological quality of each RCT's full text
- We analyzed:
  - risk of bias as per Cochrane methodology
  - proportion of registered trials
  - proportion of trials that were funded by the pharmaceutical industry
  - proportion of studies that disclosed conflict of interest

## Results

	2006	2007	2008	2009	2010	2006-2010
<b>Randomized Controlled Trials</b>						
<b>Fertility and Sterility</b>	13.9% 100/714	9.4% 110/1168	7.2% 126/1739	8.2% 132/1595	8.4122/1463	8.6% 58/670
<b>Human Reproduction</b>	13.5% 61/451	6.5% 26/553	7.3% 30/538	6.9% 36/518	5.71 27/475	7.6% 206/2721
<b>Human Reproduction Update</b>	0.3% 0/76	0.0% 0/60	0.3% 0/73	0.0% 0/43	0.0% 0/43	0.0% 0/365
<b>Reproduction (Cambridge, England)</b>	0.3% 0/203	0.3% 0/196	0.3% 0/216	0.9% 2/219	1.81 4/221	0.6% 6/1035
<b>Reproductive Biomedicine Online</b>	4.8% 12/250	3.8% 10/263	6.1% 16/261	4.1% 15/366	4.91 15/309	4.7% 66/1448
<b>All five top journals</b>	<b>8.6%</b>	<b>7.0%</b>	<b>6.4%</b>	<b>6.7%</b>	<b>6.6%</b>	<b>7.0% 866/12450</b>
<b>Systematic Reviews with Meta-analysis</b>						
<b>Fertility and Sterility</b>	1.4% 11/924	1.4% 16/1168	1.4% 25/1739	0.9% 15/1595	1.0% 15/1463	1.2% 91/670
<b>Human Reproduction</b>	0.3% 2/657	0.5% 3/553	1.4% 3/558	0.6% 3/518	0.8% 4/475	0.7% 16/2721
<b>Human Reproduction Update</b>	5.3% 4/76	8.3% 5/60	11.9% 6/73	18.0% 12/43	18.3% 16/43	12.7% 45/365
<b>Reproduction (Cambridge, England)</b>	0.3% 0/203	0.0% 0/196	0.0% 0/216	0.0% 0/219	0.5% 1/221	0.1% 1/1035
<b>Reproductive Biomedicine Online</b>	2.4% 6/250	1.9% 5/263	0.8% 3/261	1.9% 7/366	1.8% 5/309	1.7% 25/1448
<b>All five top journals</b>	<b>1.2%</b>	<b>1.3%</b>	<b>1.5%</b>	<b>1.3%</b>	<b>1.6%</b>	<b>1.4% 174/12450</b>

Figure 1. Potential SRs with meta-analysis

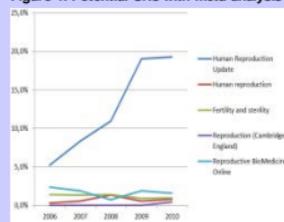


Figure 2. Potential RCTs

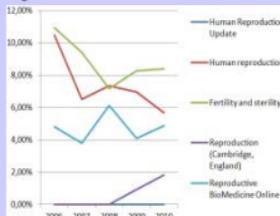
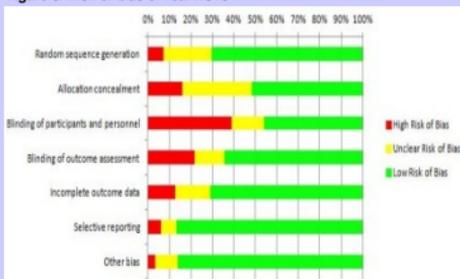


Figure 3. Risk of bias of real RCTs



- Funding was disclosed by 39.7% and 26% of them were sponsored by pharmaceutical companies
- 74% claimed not to have conflicts of interests
- 23% of the analyzed studies had a trial registration

## Conclusions

- More than 90% of all the publications in the top-five journals are neither SRs nor RCTs.
- Risk of bias was generally low.
- Enhancing trial registration and funding source statements represent opportunities to improve the quality of reporting.

- Researchers and editorial boards should make more effort in publishing higher quality studies, and readers should identify those sources with better quality studies to obtain the best information