Solidifying the link for FGS and HIV – what else is *still* needed

A Cochrane review?

Russell Stothard
LSTM

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“Scientists have discovered.....”

Just being published, often the *consensus* assumes it isn’t good quality!

And as much as it pains me…

A Cochrane review really seems the first way for policy change

Reliability of results depends on many factors:

- Size of the study
- Size of the effect you’re trying to measure
- Study bias e.g. design of study, type of analysis undertaken
- Financial incentives
- Size of the scientific community

THE COCHRANE COLLABORATION®

- Traditionally, systematic reviews have focused on combining information from multiple clinical trials
- Anyone can undertake a systematic review, however Cochrane Reviews, prepared by the Cochrane Collaboration are considered to the 'gold-standard'
- Rigorous guidelines hav[illegible]e Cochrane Collaboration for undertaking system[illegible]dbook.cochrane.org/)
- They also host the Coch[illegible] http://www.thecochra[illegible] Cochrane Central Register of Controlled Trials (CE[illegible]
- Cochrane guidelines fo[illegible]pposed to *observational studies*

- MOOSE (Meta-analysis of Observational Studies in Epidemiology) http://jama.jamanetwork.com/article.aspx?articleid=192614

The birth of a '*cottage*' industry

OPEN ACCESS Freely available online

PLoS MEDICINE

Policy Forum

Seventy-Five Trials and Eleven Systematic Reviews a Day: How Will We Ever Keep Up?

Hilda Bastian[1]*, Paul Glasziou[2], Iain Chalmers[3]

1 German Institute for Quality and Efficiency in Health Care (IQWiG), Cologne, Germany, 2 Centre for Research in Evidence-Based Practice, Faculty of Health Sciences, Bond University, Gold Coast, Australia, 3 James Lind Library, James Lind Initiative, Oxford, United Kingdom

Thirty years ago, and a quarter of a century after randomised trials had become widely accepted, Archie Cochrane reproached the medical profession for not having managed to organise a "critical summary, by speciality or subspeciality, adapted periodically, of all relevant randomised controlled trials" [1]. Thirty years after Cochrane's reproach we feel it is timely to consider the extent to which health professionals, the public and policymakers could now use "critical summaries" of trials for their decision-making.

Summary Points

- When Archie Cochrane reproached the medical profession for not having critical summaries of all randomised controlled trials, about 14 reports of trials were being published per day. There are now 75 trials, and 11 systematic reviews of trials, per day and a plateau in growth has not yet been reached.
- Although trials, reviews, and health technology assessments have undoubtedly had major impacts, the staple of medical literature synthesis remains the non-systematic narrative review. Only a small minority of trial reports are being analysed in up-to-date systematic reviews. Given the constraints, Archie Cochrane's vision will not be achieved without some serious changes in course.
- To meet the needs of patients, clinicians, and policymakers, unnecessary trials need to be reduced, and systematic reviews need to be prioritised. Streamlining

http://www.plosmedicine.org/article/info%3Adoi%2F10.1371%2Fjournal.pmed.1000326

How to begin a systematic review

Step 1: Identify your research question, the outcome you want to measure, and related key words & phrases

To evaluate association/interventions between schistosomiasis and HIV, etc.

Step 2: Establish your inclusion and exclusion criteria

Cluster-randomized trials and non-randomized controlled studies comparing therapeutic MDA versus placebo or no MDA, and uncontrolled before-and-after studies comparing post-MDA to baseline data

Step 3: Search for relevant studies using the appropriate key words

Cochrane register (CENTRAL), PubMed, Reference lists, conference proceedings ....

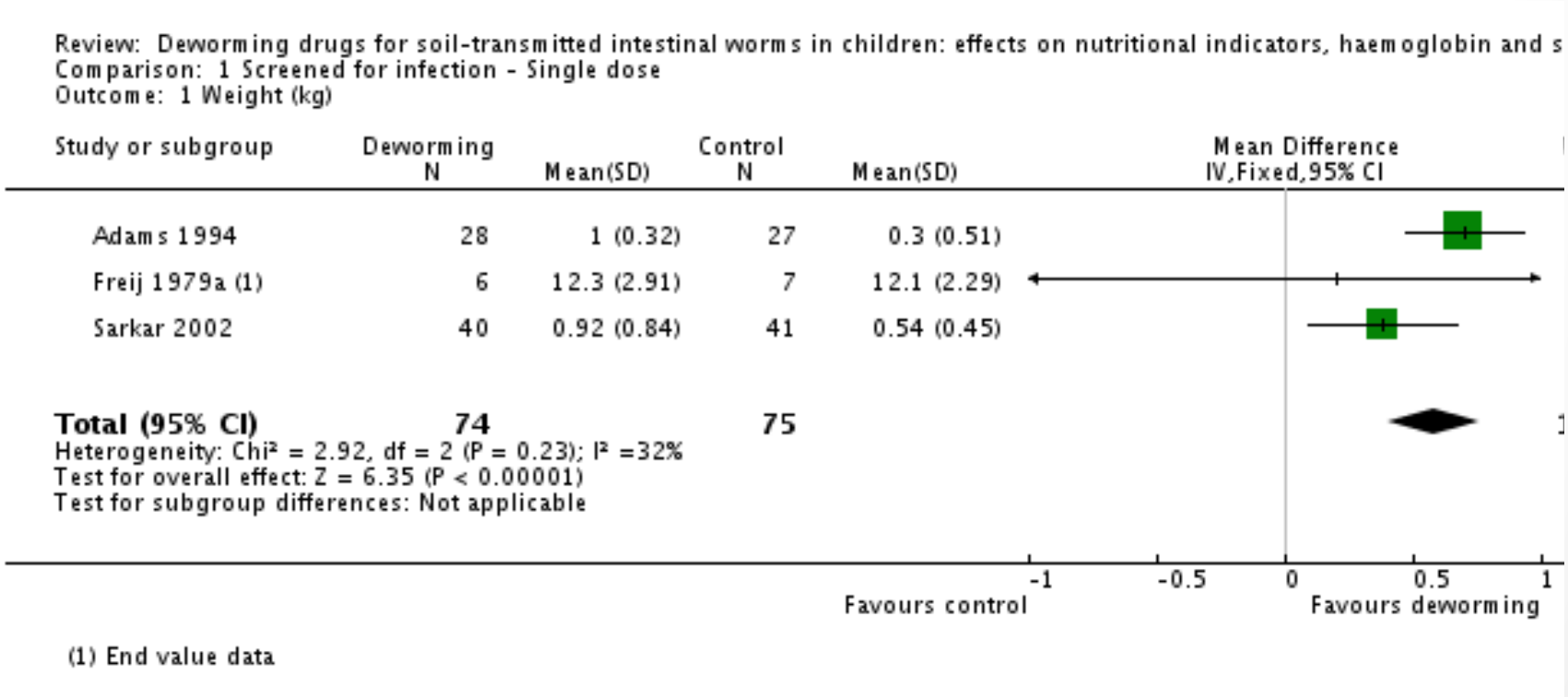
Step 4: Screen the results based on titles and abstracts

Step 5: Review full text of remaining studies

http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD008846.pub2/full

Meta-analysis methodology: Interpretation of results

Deworming drugs for soil-transmitted intestinal worms in children: effects on nutritional indicators, haemoglobin and school performance (Review)



http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD000371.pub5/

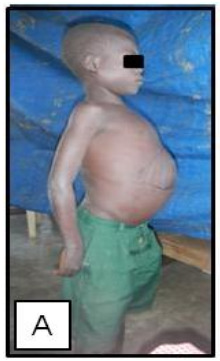
Risk of bias

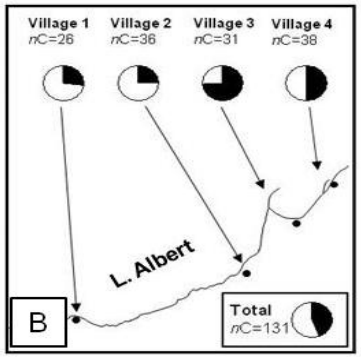
What about bias introduced when selecting studies to include in the analysis?

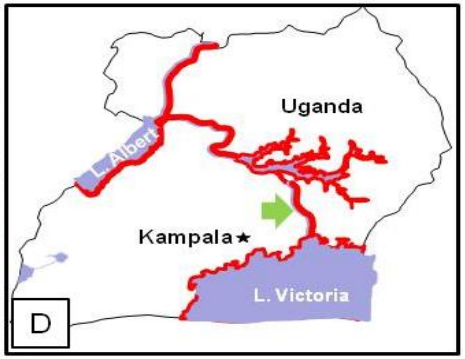
Type of reporting bias	Definition
Publication bias	The *publication* or *non-publication* of research findings, depending on the nature and direction of the results
Time lag bias	The *rapid* or *delayed* publication of research findings, depending on the nature and direction of the results
Multiple (duplicate) publication bias	The *multiple* or *singular* publication of research findings, depending on the nature and direction of the results
Location bias	The publication of research findings in journals with different *ease of access* or *levels of indexing* in standard databases, depending on the nature and direction of results.
Citation bias	The *citation* or *non-citation* of research findings, depending on the nature and direction of the results
Language bias	The publication of research findings *in a particular language*, depending on the nature and direction of the results
Outcome reporting bias	The *selective reporting* of some outcomes but not others, depending on the nature and direction of the results

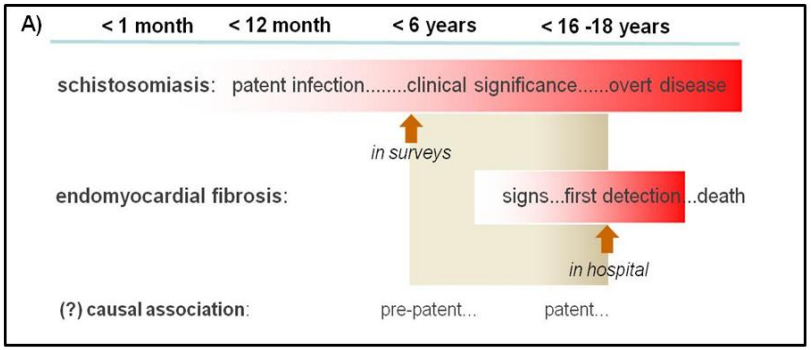
The crux of our problem: timings

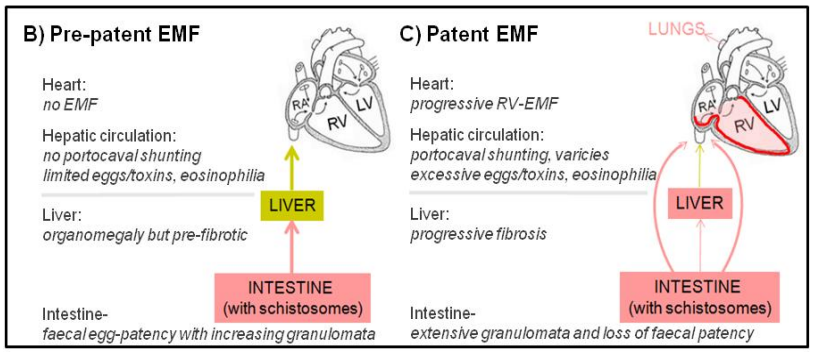
CONCEPT FUNDING NOTE:
ASSESSESSING AN EPIDEMIOLOGICAL CONNECTION BETWEEN INTESTINAL SCHISTOSOMIASIS AND ENDOMYOCARDIAL FIBROSIS (EMF) IN UGANDA











A direct analogy with FGS and HIV

1. **Poor surveillance**
2. **Limited primary literature**
3. **Plausible causality**
4. **Slow temporal associations**

Case reports future 'RCT' not ethical

Disadvantages of undertaking meta-analyses

- No two studies are the same, hence combining them may lead to inaccuracies
  - **Clinical heterogeneity**: differences in p… outcomes
  - **Method…** …quality
  - …low power
- …ed and unpublished studies should be included in …lysis, unpublished results are more difficult to obtain
  - Journals tend to favour statistically significant results
  - Non-significant or negative results may not be publicised

No Cochrane Review…FGS/HIV is further marginalised.

How can we stress the absurdity of this situation more?