

Ph 458 Evidence and Policy

WEEK 6 : What's so good about randomization? (I)

We saw last week that some investigators endorse the very strong claim that only evidence from RCTs supplies real scientific evidence of the effectiveness of some medical treatment. And that they were willing to make what seem intuitively like quite testing ethical claims on the basis of that judgment about evidence. So are they right? Is there something special about the strength of evidence from RCTs compared to other studies?

Reading and Study questions

Required Reading:

- (a) John Worrall 'What evidence in Evidence Based Medicine?' *Philosophy of Science* 2002
- (b) Leonard Leibvici 'The Effects of Remote, Retroactive Intercessory Prayer ...: Randomized Controlled Trial' *BMJ* 2001
- (c) Colin Howson *Hume's Problem*. (Sub-section on 'Fisher's solution' in Chapter 3)
- (d) Lecture Slides

Further Reading:

- (a) John Worrall 'Evidence and Evidence-Based Medicine' *Philosophy Compass* 2007
- (b) John Worrall 'Evidence: Medicine meets Philosophy of Science' *Journal for the Evaluation of Clinical Practice*
- (c) Adam La Caze 'Evidence-Based Medicine must be ..' (chapter of unpublished PhD thesis)

Study Questions

(rather than any formal presentation could everyone come prepared to discuss the following questions?)

1. What is Fisher's argument for the need to randomize? Is Howson's criticism of the argument convincing?
2. 'It's just a matter of fact that historical studies have regularly exaggerated positive effects of treatments.' How does this fare as an argument for randomizing?
3. How is the distinction between 'known' and 'unknown confounders' best described? What are 'historically controlled studies'? Why are RCTs supposed to do better than such studies in terms of 'unknown confounders'?
4. What is 'selection bias'? Do RCTs avoid it? Is randomizing the only way to avoid it?
5. What evidential problems might arise from the fact that in historically controlled studies, by definition, all the patients/subjects in the trial are given the experimental treatment and are known to have been given it?