Project title

Risk of bias assessment of random sequence generation in systematic reviews of randomised trials.

Institution National University of Ireland, Galway

Project details (max 250 words)

Systematic reviews are a summary of the best available evidence and, as a result, shape policy and help inform healthcare decisions. Randomised trials (RCTs) are regarded as the optimal design to evaluate the effectiveness of healthcare interventions and therefore systematic reviews of evaluations of interventions invariably include RCTs and quasi-RCTs.

Randomisation is the process of generating a sequence of random numbers and is essential to produce equivalent groups. There is good evidence that effective randomisation minimises bias in effect estimates with inadequate randomisation exaggerating treatment effects. In quasi-RCTs participants are allocated to the intervention or control groups by using a non-random allocation sequence generation (e.g. alternate).

If a systematic review of RCTs explicitely states that quasi-RCTs are excluded then one would expect that there would be low-risk of bias (ROB) for sequence generation (selection bias). However, we have observed that this is not always the case and that reviews reporting the exclusion of quasi-RCTs judge sequence generation as high or unclear ROB which suggests that the review has not been restricted to RCTs only as intended. There is an urgent need to examine this issue.

Guided by experienced reviewers, the student will have the opportunity to contribute to review methodology development by retrieving a sample of Cochrane reviews of RCTs and quasi-RCTs and comparing the ROB assessment of random sequence generation. This project will provide evidence on the extent of inconsistency in ROB judgement to further assess its impact on review conclusions and provide emperical data to improve review methodology.

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