Interventional systematic review/ meta-analysis

A systematic review is a structured, transparent and replicable study design for collecting the complete evidence. The study follows a pre-defined protocol. The evidence can be compiled or not through meta-analysis. An interventional systematic review examines the complete evidence for an intervention, typically replying on randomized controlled trials.

- ☐ Background
  - Explain the research topic to a non-expert, addressing the disease and the intervention
  - Explain the need for a systematic review on the topic, in the context of existing evidence/ guidelines and prior systematic review/s on the topic
- ☐ Objectives
- ☐ Study design: Define the study as a systematic review and whether a meta-analysis is planned or not
- ☐ Inclusion criteria
  - Study designs: define study designs included in the systematic review and any restrictions on study inclusion (blinding, language, year of publication, publication status). Preferably, no restrictions should be applied, unless justified
  - Patients
  - Interventions and comparison
  - Outcomes: define the primary review outcome/s and secondary outcomes that will be extracted from the studies. Define the preferred time point for outcome assessment and the units of measurement. Define whether inclusion was restricted by outcome reporting and which outcomes were mandated for study inclusion
- ☐ Search strategy: define the databases used for the search and the methods of searching in each database, including the search string. To include all the existing evidence in the systematic review, the search should be broad, including several databases and preferably unpublished data sources (trial registries, conference proceedings)
- ☐ Data extracted: define the data that will be extracted from the study in addition to the study outcomes
- ☐ Risk of bias assessment: describe the risk of bias assessment tool that will be used and relevant definitions. Use of the Cochrane risk of bias tool for randomized controlled trials is advised
- ☐ Review methods: present who will do the search, apply eligibility criteria, extract the data and perform the analysis. Most of these and surely the data extraction should be performed in duplicate by two independent reviewers, with the methods for discrepancy resolution defined
- ☐ Statistical analysis: define the effect measures for the different outcomes (dichotomous or continuous), planned meta-analyses, their methods (fixed or random effects models) and the methods of heterogeneity assessment. Describe the software used for meta-analysis.

- ☐ Subgroup and sensitivity analyses: predefine the planned subgroup analysis. Sensitivity analysis by risk of bias is advised
- ☐ GRADE summary of findings: address the grading of the certainty of the evidence using GRADE methodology
- ☐ Potential sources of bias: describe the planned study limitations, potential bias and, if relevant, methods to address these.