



Description

A systematic review is often used to analyze current medical research landscape or scope and to identify new research areas. Systematic reviews are used as the basis for developing clinical guidelines and informed clinical decisions. In order to ensure a uniform approach to conduct these reviews, the [twenty-seven points checklist](#), PRISMA (Preferred Reporting Items for Systematic reviews and meta-analyses) was established.

The [structure of a systematic review](#) consists of- title, introduction, methods, results, discussion, and references. In order to conduct a systematic review, you must

- Determine the research question.
- Design the analytic framework.
- Map the evidence.
- Conduct data analysis.
- Synthesize the evidence.

The research question must be clear and well defined as it will guide the entire systematic review protocol. The question may rely on PICOS structure (population, intervention, control/comparator, outcomes, and study design). After gathering the necessary literature-academic review articles and/or original research articles, authors must decide which articles to include in the systematic review based on the research question. This process is called evidence mapping. The selected papers must then be critically analyzed to determine their quality. Only high-quality studies must be included in the systematic review. Finally, the authors must compare and contrast the selected studies and use this process to answer the initial research question. This process has been represented in the PRISMA flow chart.

Guidelines for Systematic Review

The PRISMA guidelines are quite comprehensive. These guidelines discuss the different sections of the review and require disclosure of the funding source. Apart, from defining question in the introduction, authors must also describe the information sources and the search strategy. Additionally, the process of selecting studies should be stated along with the information on data extraction. The method to assess the bias in the papers should also be included in the systematic review. An assessment of the risk of bias across studies should be presented.

The review must also include the [flow chart and a summary of data](#) for each intervention group included in the study. The outcome of all meta-analyses must be reported, including confidence intervals and measures of consistency. Any additional data analysis should also be presented.

More recently, the Preferred Reporting Items for Systematic reviews and Meta-Analyses for Protocols 2015 ([PRISMA-P 2015](#)) was published. A PRISMA-P consensus meeting was held in 2011 in order to reduce the number of potential PRISMA-P items. The meeting involved international experts including journal editors, systematic review methodologists, biostatisticians, and health research funders. The consensus meeting whittled the initial checklist from thirty-eight to twenty-two items.

Protocols of systematic reviews are the focus of PRISMA-P. The scope of PRISMA-P includes systematic reviews and meta-analyses that summarize data from studies, especially those that evaluate the effect of various interventions. PRISMA-P includes a seventeen-item checklist to help authors ensure that their systematic review protocol is detailed and thorough. If followed carefully, PRISMA-P should result in a methodology that helps readers understand your research work and identify where you chose to make changes to the proposed method or engaged in a selective reporting in your published review.

Due to the importance of systematic reviews in medical practice, there have been many calls for a priori access to the methods used in these reviews. This would reduce duplicate systematic reviews and the resulting publication bias. A registry of this information may be found in [PROSPERO](#) (International Prospective Register of Ongoing Systematic Reviews). More than 5,000 systematic review protocols from over 70 countries have been deposited in PROSPERO to date. Authors should use PRISMA-P to prepare a protocol before depositing it in PROSPERO. PRISMA-P will help authors to clearly state the rationale for their review and pre-plan the methodology and analytical approach.

Systematic Reviews and their Protocols

With the input of several experts from around the world, a standardized approach to writing both systematic reviews and their associated protocols has been established. Any author can confidently use the PRISMA guidelines to ensure that the final review is conducted with rigor. A PRISMA systematic review should be able to withstand the scrutiny when the reported is used in clinical practice. To further refine the process, PRISMA-P will ensure that a similar rigor is applied to the creation of the associated review methodology.

Category

1. Manuscripts & Grants
2. Reporting Research

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