

**MJM BIOLABS**  
**SYSTEMATIC REVIEW WRITING GUIDELINES**  
*For Journal Submissions*

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*A comprehensive guide for authors conducting and reporting systematic reviews and meta-analyses*

Based on PRISMA 2020 | Cochrane Handbook | JBI Manual

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## OVERVIEW

A systematic review (SR) is a rigorous, transparent synthesis of all available evidence on a focused research question using explicit, pre-specified methods to minimize bias. Unlike narrative reviews, SRs must be planned, conducted, and reported in strict accordance with internationally recognized standards. MJM Biolabs requires adherence to the PRISMA 2020 checklist as the minimum reporting standard for all systematic reviews.

Where applicable, authors should additionally consult the Cochrane Handbook for Systematic Reviews of Interventions, the JBI Manual for Evidence Synthesis, and relevant extension guidelines (e.g., PRISMA-P for protocols, PRISMA-NMA for network meta-analyses, PRISMA-ScR for scoping reviews).

### Types of Systematic Reviews Accepted

Review Type	Key Feature
Systematic Review of Interventions	Evaluates effectiveness of interventions using RCTs or quasi-experimental designs
Systematic Review of Prevalence/Incidence	Estimates disease burden using observational studies
Systematic Review of Diagnostic Accuracy	Assesses sensitivity/specificity of diagnostic tests
Systematic Review of Aetiology/Risk Factors	Examines associations between exposures and outcomes
Systematic Review of Qualitative Evidence	Synthesizes qualitative research findings
Mixed-Methods Systematic Review	Integrates quantitative and qualitative evidence
Rapid Review	Streamlined SR with explicit scope limitations — must declare modifications

## COVER PAGE

NOTE: The Cover Page must be submitted as a SEPARATE file for peer review.  
The main manuscript must be fully anonymized, remove all author-identifying information.

### Manuscript Title

Maximum 25 words. The title must clearly state the topic, population, and type of review. Avoid abbreviations in the title.

#### FORMAT

*A systematic review [and meta-analysis] of [outcome/intervention] in [population]: [optional qualifier]*

#### GOOD TITLE EXAMPLE

*Prevalence and Risk Factors of Type 2 Diabetes Mellitus in Sub-Saharan Africa: A Systematic Review and Meta-Analysis*

#### POOR TITLE EXAMPLE

*A Review of Diabetes in Africa (too vague, lacks population specificity, review type, and outcome)*

## Author Names & Affiliations

List all authors in order of contribution with superscript affiliation numbers. Mark corresponding author with asterisk (\*). Include: Department, School/Faculty, Institution, City, Country. Provide ORCID for all authors where available.

## Corresponding Author Details

*\*Corresponding Author: Dr [Full Name], [Department], [Institution], [Postal Address]*

*Email: [institutional email address] | ORCID: [if available]*

## Protocol Registration

**MANDATORY:** Authors must register their systematic review protocol BEFORE data extraction.

Accepted registries: PROSPERO (preferred), OSF, Cochrane, Campbell Collaboration.

Include the registry name and registration number on the Cover Page AND in the Methods section.

Example: 'This systematic review was registered in PROSPERO (Registration No. CRD42024XXXXXX).'

Unregistered reviews must provide a clear explanation. Absence of registration may delay or prevent acceptance.

## ABSTRACT

Word count: 300-350 words

Line spacing: Single (1.0) for abstract section only

Structure: Follow the seven mandatory subheadings below.

Do not include citations, tables, or figures in the abstract.

### BACKGROUND

2-3 sentences (~50-70 words). State the health problem or knowledge gap. Explain why a systematic review is needed. Note PROSPERO/registry number if registered.

### OBJECTIVE

1-2 sentences (~30-50 words). State the primary aim of the review. Specify the PICO(S) elements implicitly or explicitly: Population, Intervention/Exposure, Comparator, Outcome, Study design.

### METHODS

4-6 sentences (~80-100 words). State databases searched and date range. Name inclusion and exclusion criteria briefly. State the risk of bias tool used. Specify the synthesis approach (narrative synthesis or meta-analysis). For meta-analyses, state statistical model (random/fixed effects) and heterogeneity statistic.

## RESULTS

4-6 sentences (~80-100 words). State number of studies identified, screened, and included. Report primary outcome with pooled estimate and confidence interval (if meta-analysis). Report  $I^2$  statistic and its interpretation. State overall risk of bias assessment. Summarize key secondary findings.

## CONCLUSION

2-3 sentences (~40-60 words). Restate the main finding in a declarative statement. State the strength of evidence (e.g., moderate-certainty evidence). Identify key implications for practice or policy. Do not introduce new information.

## CERTAINTY OF EVIDENCE

1 sentence. State the GRADE certainty rating for the primary outcome (high, moderate, low, or very low).

## KEYWORDS

6-8 terms separated by semicolons. Use MeSH terms where possible. Include review type (e.g., systematic review; meta-analysis). Lowercase except proper nouns. Avoid terms already in title.

## REGISTRATION

State registry and registration number. Example: PROSPERO CRD42024XXXXXX.

## INTRODUCTION

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Word count: 500-700 words

Structure: Funnel approach, broad to specific

Minimum 15 citations; prioritize recent systematic reviews, meta-analyses, and authoritative reports

### **Paragraph 1: Global and Regional Burden (~150 words)**

Define the health condition or topic. Present global epidemiology, mortality, morbidity, and economic burden. Establish public health significance. Cite authoritative sources (WHO, GBD, UN agencies, landmark systematic reviews).

### **Paragraph 2: Existing Evidence and Gaps (~150 words)**

Summarize the state of existing primary research. Highlight inconsistencies, contradictions, or heterogeneity across published studies. Identify what is known and, critically, what remains uncertain. Mention any previous systematic reviews on the topic and their limitations (outdated search dates, narrow populations, methodological flaws).

### **Paragraph 3: Justification for This Review (~100 words)**

Explicitly state why a new or updated systematic review is warranted. Explain the added value: updated evidence base, broader population scope, new outcomes, improved methodology, or a different geographic focus. Do not overstate the novelty.

### **Paragraph 4: Objective and PICO(S) Statement (~100 words)**

State the primary objective of the review clearly. Present the PICO(S) framework explicitly or embed it in the objective statement.

#### **PICO(S) FORMAT**

*P - Population: Who are the participants? (age, condition, setting, geography)*

*I - Intervention / Exposure: What is being studied?*

*C - Comparator: What is it compared against? (or 'none' if not applicable)*

*O - Outcome(s): What outcomes are being measured?*

*S - Study design: What types of studies are included?*

*Example: 'This review aimed to determine the pooled prevalence of hypertension (O) among adults aged 18 years and above (P) in East Africa (P), using data from cross-sectional and cohort studies (S).'*

### **Critical Requirements**

- ✓ Minimum 15 citations; majority from past 10 years
- ✓ Every factual claim requires citation
- ✓ Use past tense for previous studies, present tense for established facts
- ✓ Write in third person - avoid 'we aimed', 'our review'
- ✓ Use formal academic tone and British English
- ✓ Do NOT present results or conclusions in the Introduction

## **METHODS**

Word count: 1,200-1,500 words

Tense: Past tense throughout

Requirement: Sufficient detail to enable full replication

All 12 subsections below are mandatory and must appear in this exact order.

Report deviations from the registered protocol with justification.

### **1. Review Design and Registration**

Approximately 60-80 words. Name the review type (e.g., systematic review and meta-analysis of observational studies). State the reporting guideline followed (PRISMA 2020). Provide the protocol registration number and registry name. State the date of registration. Indicate any amendments to the registered protocol.

*Example: 'This systematic review and meta-analysis was conducted and reported in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) guidelines (Page et al., 2021). The review protocol was registered in PROSPERO prior to data extraction (Registration No. CRD42024XXXXXX).'*

## 2. Eligibility Criteria

Approximately 150-200 words. Present eligibility criteria structured around PICO(S). List ALL inclusion and exclusion criteria explicitly. Provide justification for key restrictions (e.g., language, date, geography). Specify whether grey literature was included. Define minimum study quality or design standards.

### INCLUSION CRITERIA - EXAMPLE FORMAT

*Studies were included if they: (1) reported primary data on [outcome]; (2) enrolled [population]; (3) used [study design]; (4) were published between [date range]; (5) were published in English, French, or Kiswahili.*

### EXCLUSION CRITERIA - EXAMPLE FORMAT

*Studies were excluded if they: (1) were case reports, editorials, or letters; (2) did not report [specific outcome]; (3) had a sample size < [n]; (4) were conducted in [excluded setting].*

## 3. Information Sources and Search Strategy

Approximately 200-250 words. This is the most critical methods subsection. List ALL databases searched with full names and abbreviations. Provide the exact date(s) of the search. Describe supplementary search strategies (hand-searching reference lists, grey literature, trial registries, contacting authors). State whether a medical librarian or information specialist was consulted.

**MANDATORY:** Provide the full search string for at least one major database (e.g., PubMed/MEDLINE) in an appendix or supplementary file.

Recommended databases: PubMed/MEDLINE, EMBASE, CINAHL, Cochrane CENTRAL, African Journals Online (AJOL), Google Scholar, WHO IRIS, OpenGrey.

Search date must be within 6 months of submission. Searches older than 12 months require an updated search or justification.

### SEARCH STRING EXAMPLE (PubMed)

*("hypertension"[MeSH] OR "high blood pressure"[tiab]) AND ("East Africa"[tiab] OR "Kenya"[tiab] OR "Uganda"[tiab] OR "Tanzania"[tiab]) AND ("prevalence"[MeSH] OR "epidemiology"[tiab])*

## 4. Study Selection

Approximately 120-150 words. Describe the process of title/abstract screening and full-text review. State the number of independent reviewers at each stage and how disagreements were resolved (e.g., consensus, third reviewer). Name the software or tool used for screening (e.g., Covidence, Rayyan, Endnote). State that the PRISMA 2020 flow diagram was completed (include as Figure 1). Report reasons for exclusion at the full-text stage.

## 5. Data Extraction

Approximately 120-150 words. Describe the data extraction form (developed a priori, pilot-tested). State the number of independent reviewers and how discrepancies were resolved. List the data items extracted, including: study characteristics (author, year, country, design, sample size, setting), participant characteristics (age, sex,

clinical features), exposure/intervention details, outcome definitions and measures, and confounders or covariates reported.

## 6. Risk of Bias Assessment

Approximately 100-120 words. Name the specific tool(s) used for each study design. State the number of reviewers and how disagreements were resolved. Describe whether risk of bias was used in sensitivity analyses.

Study Design	Recommended Risk of Bias Tool
Randomized Controlled Trials	Cochrane RoB 2 (Sterne et al., 2019)
Non-randomized / Observational Studies	ROBINS-I or Newcastle-Ottawa Scale (NOS)
Prevalence / Cross-sectional Studies	JBI Critical Appraisal Tool for Prevalence Studies
Diagnostic Accuracy Studies	QUADAS-2
Qualitative Studies	JBI Critical Appraisal Checklist for Qualitative Research
Case-Control Studies	Newcastle-Ottawa Scale (NOS)
Cohort Studies	Newcastle-Ottawa Scale (NOS)

## 7. Data Items and Outcome Measures

Approximately 80-100 words. Define the primary outcome and all secondary outcomes precisely. Provide diagnostic or operational definitions with citations. Specify units of measurement and cut-off values used. For meta-analyses, state the summary measure used (odds ratio, risk ratio, mean difference, prevalence proportion, etc.).

## 8. Synthesis Methods

Approximately 150-200 words. Describe the statistical synthesis approach. If meta-analysis was conducted: state the pooling method (DerSimonian-Laird random-effects model preferred for heterogeneous data), transformation used for proportions (e.g., Freeman-Tukey double arcsine), software and version used (e.g., Stata v17, R meta package, RevMan 5.4). If narrative synthesis only: describe the framework used (e.g., thematic grouping, vote counting, harvest plot) and the rationale for not conducting meta-analysis.

Heterogeneity: Report Cochran Q statistic (p-value) and  $I^2$  statistic for all pooled estimates.

$I^2$  interpretation guide: 0-24% = low; 25-49% = moderate; 50-74% = substantial; 75-100% = considerable.

If  $I^2 > 50\%$ , use random-effects model and explore sources of heterogeneity via subgroup analysis or meta-regression.

Publication bias: For  $N \geq 10$  studies, report funnel plot asymmetry and Egger's or Begg's test.

## 9. Subgroup and Sensitivity Analyses

Approximately 80-100 words. Pre-specify all planned subgroup analyses and their rationale (e.g., by region, age group, study design, risk of bias level, publication year). State sensitivity analyses performed to test robustness of findings (e.g., excluding high risk of bias studies, restricting to peer-reviewed publications only, leave-one-out analysis). Report whether these were pre-specified or post-hoc.

## 10. Assessment of Reporting Bias

Approximately 60-80 words. State methods used to assess publication bias and other reporting biases. For meta-analyses with 10 or more studies: describe funnel plot inspection and Egger's test. Describe any additional steps taken to minimize reporting bias (e.g., searching grey literature, contacting study authors for unpublished data).

## 11. Certainty of Evidence (GRADE)

Approximately 80-100 words. State that the Grading of Recommendations Assessment, Development and Evaluation (GRADE) approach was used to assess the overall certainty of evidence for each primary outcome. Describe the five GRADE domains considered: risk of bias, inconsistency, indirectness, imprecision, and publication bias. State the software used (e.g., GRADEpro GDT). Present results in a Summary of Findings (SoF) table.

GRADE Certainty Level	Interpretation
High	We are very confident the true effect lies close to the estimate
Moderate	We are moderately confident in the effect estimate; further research may change it
Low	Our confidence in the effect estimate is limited; further research is likely to change it
Very Low	We have very little confidence in the effect estimate

## 12. Ethical Considerations

Approximately 60-80 words. State that the review analysed only previously published data and did not require primary ethical approval. If the review was conducted as part of a thesis or institutional project, include the institutional acknowledgement. Confirm that no patient or participant data were collected directly.

*Example: 'As this review is based entirely on previously published and publicly available data, primary ethical approval was not required. The review protocol was approved as part of the first author's MSc thesis requirements at [Institution].'*

## RESULTS

Word count: 900-1,200 words  
 Tense: Past tense throughout  
 Requirement: Objective reporting, no interpretation in this section  
 All data presented must correspond to a table or figure

Report exact p-values and confidence intervals throughout

### Subsection 1: Study Selection (~100–150 words)

Report the total number of records identified from each source. State the number of duplicates removed. Report the number screened at title/abstract stage, excluded, and retrieved for full-text review. State the number included in the final synthesis (quantitative and/or qualitative). Reference the PRISMA 2020 flow diagram (Figure 1). State the primary reasons for exclusion at full-text stage.

*Example: 'Database searches identified 3,214 records; 1,847 after duplicate removal. Following title/abstract screening, 187 full-text articles were retrieved. After full-text review, 42 studies met eligibility criteria and were included in the synthesis. The PRISMA 2020 flow diagram is presented in Figure 1.'*

### Subsection 2: Study Characteristics (~150-200 words)

Describe the characteristics of included studies: number of studies by design, total sample size, country/region, publication year range, population demographics, and outcome definitions used. Reference Table 1 (Characteristics of Included Studies). Note any heterogeneity in study characteristics that may influence synthesis.

### Subsection 3: Risk of Bias Across Studies (~100-150 words)

Summarize the risk of bias results across included studies. Report the proportion of studies at each risk of bias level (low, moderate, high, unclear). Reference Figure 2 (risk of bias summary) and Table 2 (risk of bias by study). Note domains most commonly rated as high risk.

### Subsection 4: Primary Outcome, Results of Synthesis (~200-300 words)

Present the pooled estimate for the primary outcome with 95% confidence intervals. Report the number of studies and participants contributing to each pooled estimate. State the heterogeneity statistics ( $Q$ ,  $df$ ,  $p$ -value,  $I^2$ ) and their interpretation. Reference the forest plot (Figure 3). If  $I^2$  is high, describe the exploratory analyses conducted.

*Example: 'The pooled prevalence of hypertension was 38.6% (95% CI: 34.2–43.1%;  $n = 28$  studies;  $N = 54,320$  participants). Substantial heterogeneity was observed ( $I^2 = 78.3\%$ ,  $Q = 127.4$ ,  $p < 0.001$ ). A random-effects model was therefore applied.'*

### Subsection 5: Subgroup and Sensitivity Analyses (~150-200 words)

Present results of all pre-specified subgroup analyses with pooled estimates and confidence intervals for each subgroup. Report tests for subgroup differences. Present sensitivity analysis results and indicate whether they changed the primary conclusions. Reference corresponding forest plots or supplementary tables.

### Subsection 6: Publication Bias (~80-100 words)

Report results of funnel plot inspection and formal statistical tests (Egger's test or Begg's test) if 10 or more studies are included. State whether publication bias was detected and the implications for the findings.

## Subsection 7: Certainty of Evidence (~80-100 words)

Report the GRADE certainty rating for each primary outcome. Present the Summary of Findings (SoF) table (Table 3). State which GRADE domains led to downgrading or upgrading of the evidence certainty, with justification.

## Tables and Figures - Mandatory Inclusions

Table / Figure	Required Content
Figure 1	PRISMA 2020 Flow Diagram, study selection stages with numbers
Table 1	Characteristics of Included Studies, author, year, country, design, N, population, outcomes reported
Figure 2	Risk of Bias Summary, visual (e.g., traffic light plot or bar chart by tool domain)
Table 2	Risk of Bias by Study domain-level judgements per included study
Figure 3	Forest Plot - primary meta-analysis with individual study estimates and pooled result
Table 3	Summary of Findings (SoF) Table - GRADE-formatted for primary outcomes

## DISCUSSION

Word count: 900-1,100 words

Purpose: Interpret findings, contextualize with existing literature, critically appraise the evidence, acknowledge limitations

### **Paragraph 1: Summary of Main Findings (~100-120 words)**

Restate the primary finding with pooled estimate. Summarize key secondary findings. Provide context for the magnitude of effect or prevalence found. State the overall certainty of evidence rating. Avoid repeating all numerical data from Results.

### **Paragraphs 2–4: Interpretation and Comparison with Literature (~400-500 words)**

For each major finding, compare with similar systematic reviews, meta-analyses, and large primary studies. Explain agreement or disagreement with prior reviews. Discuss biological plausibility, potential mechanisms, or contextual factors explaining heterogeneity. Each paragraph should address a distinct finding or theme.

### **Paragraph 5: Sources of Heterogeneity (~100-150 words)**

If substantial heterogeneity was detected, discuss the potential sources: differences in study populations, outcome definitions, follow-up duration, geographic variation, methodological quality, or confounders. Relate these back to subgroup analysis findings. Acknowledge if heterogeneity could not be fully explained.

**Paragraph 6: Implications for Practice and Policy (~100–150 words)**

Translate findings into actionable recommendations for clinicians, public health practitioners, or policymakers. Link recommendations to the GRADE certainty of evidence avoid strong recommendations for low-certainty evidence. Specify the target audience for each recommendation. Reference relevant clinical guidelines or policy frameworks.

**Paragraph 7: Strengths and Limitations (~150-200 words)**

Be explicit and balanced. Strengths should include: comprehensive search strategy, duplicate independent screening, use of validated risk of bias tools, GRADE assessment, pre-registration, and adherence to PRISMA 2020. Limitations must address: language restrictions (potential language bias), exclusion of grey literature (publication bias), between-study heterogeneity, limited generalizability if geographically restricted, reliance on aggregate rather than individual patient data, and inability to assess causality from cross-sectional data.

**Paragraph 8: Future Research (~80–100 words)**

Identify specific research gaps informed by the review findings. Recommend study designs and outcomes needed. Highlight populations or settings under-represented in current evidence. Suggest outcomes for future primary research or updated reviews. Be precise and realistic.

**CONCLUSION**

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Word count: 150-200 words

Tense: Present tense

Requirement: Concise synthesis - no new data or citations

Paragraph 1 restates the primary finding with the GRADE certainty rating. Paragraph 2 states the broader significance, implications for practice or policy, and a focused call to action. Use declarative, confident language proportional to the certainty of the evidence.

**What NOT to Do**

- Do not introduce new findings or data
- Do not add citations
- Do not repeat the Discussion verbatim
- Do not make strong recommendations if certainty of evidence is low or very low
- Do not end with a generic 'more research is needed' statement without specifying what research
- Do not overstate findings beyond what the included evidence supports

**RECOMMENDATIONS**

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Word count: 150-250 words

Requirement: Specific, actionable, proportionate to certainty of evidence

Organize by target audience

Recommendations must flow directly from the review findings and reflect the GRADE certainty of evidence. Use strong language ('should', 'is recommended') only for high- or moderate-certainty evidence. Use conditional language ('may', 'could consider') for low-certainty evidence.

### Quality Criteria

- ✓ Use action verbs: implement, integrate, develop, scale up, investigate, prioritize
- ✓ Target specific stakeholders: clinicians, facility managers, county health teams, national MOH, researchers
- ✓ Link every recommendation explicitly to a review finding
- ✓ Grade the strength of recommendation (strong / conditional) alongside certainty of evidence
- ✓ Avoid generic statements - be specific about the population, setting, and action

## PRISMA 2020 COMPLIANCE

**MANDATORY:** All submitted systematic reviews must include a completed PRISMA 2020 checklist as a supplementary file.

Download the official checklist from: <https://www.prisma-statement.org/>

The checklist must indicate the page number where each item is addressed in the manuscript.

The table below summarizes PRISMA 2020 requirements by manuscript section. Authors must verify that each section addresses the corresponding PRISMA items:

Section	Key Items Required	PRISMA Items
Title / Abstract	Structured summary including title, background, objectives, eligibility, sources, methods, results, limitations, conclusions	Item 1- 2
Introduction	Rationale and explicit objectives / PICO(S) question	Items 3-4
Methods	Eligibility criteria, information sources, search strategy, selection & data collection process, data items, risk of bias, summary measures, synthesis, additional analyses	Items 5-16
Results	Study selection (with PRISMA flow diagram), study characteristics, risk of bias, results of individual studies, synthesis, additional analyses	Items 17-23
Discussion	Summary of evidence, limitations, conclusions	Items 24-26
Funding	Sources of funding and role of funders	Item 27

## MANDATORY STATEMENTS

### Acknowledgements (Optional)

Word count: 50-100 words. Acknowledge: information specialist/librarian who designed the search, statistical consultant, institutional support. Do not acknowledge peer reviewers.

## Conflict of Interest (Mandatory)

Disclose financial or personal relationships that could bias the review (e.g., funding from industry, advisory roles, prior publications on the topic).

*If no conflicts: 'The authors declare no conflicts of interest.'*

## Funding Statement (Mandatory)

Declare all funding sources and the role of funders in the review process.

*If not funded: 'This systematic review received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.'*

## Author Contributions (Mandatory)

Specify contributions using CRediT taxonomy. Recommended roles for systematic reviews:

- Conceptualization - formulation of the research question and PICO
- Methodology - protocol development and search strategy design
- Data curation - title/abstract screening and full-text review
- Formal analysis - meta-analysis or narrative synthesis
- Visualization - forest plots, PRISMA flow diagram, risk of bias figures
- Writing - original draft; Writing, review & editing
- Supervision; Project administration

## Data Availability Statement (Mandatory)

State whether data (extraction forms, coded data, analysis code) are available, and where.

*Example: 'All data extracted and analysed during this review are included in this published article and its supplementary files.'*

*OR: 'The data extraction spreadsheet and analysis code are available from the corresponding author upon reasonable request.'*

## REFERENCES

Style: APA 7th Edition

Minimum: 40 references (systematic reviews typically require more citations than primary studies)

Formatting: Hanging indent, 1.5 line spacing

Majority should be recent (past 10 years); methodological references may be older

## Key Methodological References to Cite

In addition to substantive references, the following methodological sources should be cited where applicable:

- PRISMA 2020: Page, M. J. et al. (2021). *BMJ*, 372, n71. <https://doi.org/10.1136/bmj.n71>
- Cochrane Handbook: Higgins, J. P. T. et al. (Eds.). (2023). *Cochrane Handbook for Systematic Reviews of Interventions (Version 6.4)*. Cochrane.
- GRADE: Guyatt, G. H. et al. (2008). *BMJ*, 336(7650), 924–926.
- RoB 2: Sterne, J. A. C. et al. (2019). *BMJ*, 366, 14898.

- ROBINS-I: Sterne, J. A. C. et al. (2016). *BMJ*, 355, i4919.
- NOS: Wells, G. A. et al. (2014). The Newcastle-Ottawa Scale (NOS) for assessing the quality of nonrandomized studies in meta-analyses.
- PROSPERO registration: Booth, A. et al. (2012). *Systematic Reviews*, 1, 2.

## SUPPLEMENTARY FILES

The following supplementary files are required for all systematic reviews submitted to MJM Biolabs. Upload each as a separate file labelled Supplementary File 1, 2, 3, etc.

Supplementary File	Content Required
Supplementary File 1 (MANDATORY)	Completed PRISMA 2020 checklist with page numbers
Supplementary File 2 (MANDATORY)	Full search strategies for all databases, including exact date of search
Supplementary File 3 (MANDATORY)	Data extraction form (template used)
Supplementary File 4 (MANDATORY)	Risk of bias assessment for all included studies
Supplementary File 5 (if applicable)	GRADE Summary of Findings (SoF) table (if not in main text)
Supplementary File 6 (if applicable)	Additional forest plots for secondary outcomes or subgroup analyses
Supplementary File 7 (if applicable)	Funnel plots and statistical tests for publication bias
Supplementary File 8 (if applicable)	List of excluded studies with reasons for exclusion

## FINAL SUBMISSION CHECKLIST

Before submitting, verify that ALL of the following are complete:

### Document & Formatting

- [1] Cover page submitted as SEPARATE file with all author details
- [2] Main manuscript fully ANONYMISED (no author-identifying information)
- [3] File format: .docx (Microsoft Word)
- [4] Font: Times New Roman, 12 pt throughout
- [5] Line spacing: 1.5 (single spacing for abstract only)
- [6] Margins: 2.54 cm (1 inch) all sides
- [7] Page numbers: Top right, continuous from abstract
- [8] Word count within stated limits for each section

- [9] British English spelling throughout

## Registration & Reporting

- [1] PROSPERO (or equivalent) registration number cited in Cover Page, Abstract, and Methods
- [2] PRISMA 2020 flow diagram included as Figure 1
- [3] Completed PRISMA 2020 checklist included as Supplementary File 1
- [4] Full search strategy for all databases in Supplementary File 2
- [5] Protocol deviations clearly reported with justification

## Content Sections

- [1] Abstract: 300-350 words, all 7 subheadings present, GRADE rating included
- [2] Keywords: 6-8 terms including 'systematic review' and/or 'meta-analysis'
- [3] Introduction: 500-700 words, PICO(S) explicit, gap and justification clear
- [4] Methods: 1,200-1,500 words, all 12 subsections present
- [5] Eligibility criteria structured around PICO(S) with explicit inclusions and exclusions
- [6] Risk of bias tool named and justified for each study design
- [7] Heterogeneity statistics ( $I^2$ , Q statistic) reported for all pooled estimates
- [8] GRADE assessment conducted and reported for primary outcomes
- [9] Results: 900-1,200 words, no interpretation, all estimates with 95% CIs
- [10] Discussion: 900-1,100 words, heterogeneity sources discussed, GRADE implications addressed
- [11] Conclusion: 150-200 words, GRADE certainty stated
- [12] Recommendations: 150-250 words, proportionate to certainty of evidence

## Tables, Figures & Supplementary Files

- [1] Figure 1: PRISMA 2020 Flow Diagram (generated via [prisma.thetacollaborative.ca](http://prisma.thetacollaborative.ca) or equivalent)
- [2] Table 1: Characteristics of Included Studies
- [3] Figure 2: Risk of Bias summary visualization
- [4] Table 2: Risk of Bias by study (domain-level)
- [5] Figure 3: Forest plot for primary outcome meta-analysis
- [6] Table 3 or Supplementary: Summary of Findings (SoF) GRADE table
- [7] All supplementary files listed and labelled (Files 1–8 as applicable)
- [8] All tables and figures cited in text before appearing
- [9] All abbreviations defined in table footnotes and figure legends

## References & Statements

- [1] References: APA 7th edition, minimum 40 references, hanging indent
- [2] All in-text citations have reference list entries and vice versa
- [3] Conflict of Interest statement included
- [4] Funding Statement included
- [5] Author Contributions (CRediT) included
- [6] Data Availability Statement included
- [7] Plagiarism check completed: similarity index <15%

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For questions or clarifications, contact: [info@mjmbiolabs.co.ke](mailto:info@mjmbiolabs.co.ke)  
*MJM Biolabs | Systematic Review Writing Guidelines | Based on PRISMA 2020*