



PRISMA 2020 Checklist

Section and Topic	Item #	Checklist item	Location where item is reported
TITLE			
Title	1	Identify the report as a systematic review.	Lines 1-2
ABSTRACT			
Abstract	2	See the PRISMA 2020 for Abstracts checklist.	See the attached PRISMA 2020 Abstract Checklist File
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of existing knowledge.	Introduction Section
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	Last Paragraph of Introduction Section
METHODS			
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	The 5 th and 6 th Paragraph of Research Methodology Section
Information sources	6	Specify all databases, registers, websites, organisations, reference lists and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted.	The 2 nd Paragraph of Research Methodology Section and Table 1
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	Research Methodology Section
Selection process	8	Specify the methods used to decide whether a study met the inclusion criteria of the review, including how many reviewers screened each record and each report retrieved, whether they worked independently, and if applicable, details of automation tools used in the process.	The 5 th and 6 th Paragraph of Research Methodology Section
Data collection process	9	Specify the methods used to collect data from reports, including how many reviewers collected data from each report, whether they worked independently, any processes for obtaining or confirming data from study investigators, and if applicable, details of automation tools used in the	The 2 nd Research



PRISMA 2020 Checklist

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		process.	Methodology Section
Data items	10a	List and define all outcomes for which data were sought. Specify whether all results that were compatible with each outcome domain in each study were sought (e.g. for all measures, time points, analyses), and if not, the methods used to decide which results to collect.	Figure 1, The 1 st and The 2 nd paragraph of Results and Discussion Section.
	10b	List and define all other variables for which data were sought (e.g. participant and intervention characteristics, funding sources). Describe any assumptions made about any missing or unclear information.	The 3 rd Paragraph of Research Methodology Section
Study risk of bias assessment	11	Specify the methods used to assess risk of bias in the included studies, including details of the tool(s) used, how many reviewers assessed each study and whether they worked independently, and if applicable, details of automation tools used in the process.	The 5 th and 6 th Paragraph of Research Methodology Section
Effect measures	12	Specify for each outcome the effect measure(s) (e.g. risk ratio, mean difference) used in the synthesis or presentation of results.	Subsection 3.1-3.2
Synthesis methods	13a	Describe the processes used to decide which studies were eligible for each synthesis (e.g. tabulating the study intervention characteristics and comparing against the planned groups for each synthesis (item #5)).	Research Methodology Section
	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	Research Methodology Section
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	Research Methodology Section
	13d	Describe any methods used to synthesize results and provide a rationale for the choice(s). If meta-analysis was performed, describe the model(s), method(s) to identify the presence and extent of statistical heterogeneity, and software package(s) used.	Research Methodology Section
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression).	Research Methodology Section
	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized results.	Research Methodology Section
Reporting bias	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	Research Methodology



PRISMA 2020 Checklist

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assessment			Section
Certainty assessment	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome.	Research Methodology Section
RESULTS			
Study selection	16a	Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram.	Figure 1
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	Research Methodology Section
Study characteristics	17	Cite each included study and present its characteristics.	Subsection 3.1-3.2, Table 2, Figure 2 and Figure 3.
Risk of bias in studies	18	Present assessments of risk of bias for each included study.	Results and Discussions Section
Results of individual studies	19	For all outcomes, present, for each study: (a) summary statistics for each group (where appropriate) and (b) an effect estimate and its precision (e.g. confidence/credible interval), ideally using structured tables or plots.	Subsection 3.1-3.2, Table 2, Figure 2 and Figure 3.
Results of syntheses	20a	For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies.	Subsection 3.1-3.2, Table 2, Figure 2 and Figure 3.
	20b	Present results of all statistical syntheses conducted. If meta-analysis was done, present for each the summary estimate and its precision (e.g. confidence/credible interval) and measures of statistical heterogeneity. If comparing groups, describe the direction of the effect.	Subsection 3.1-3.2, Table 2, Figure 2 and Figure 3.
	20c	Present results of all investigations of possible causes of heterogeneity among study results.	Subsection 3.1-3.2, Table 2, Figure 2 and Figure 3.
	20d	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results.	Subsection 3.1-3.2, Table 2, Figure 2 and



PRISMA 2020 Checklist

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			Figure 3.
Reporting biases	21	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed.	Subsection 3.1-3.2, Table 2, Figure 2 and Figure 3.
Certainty of evidence	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	Subsection 3.1-3.2, Table 2, Figure 2 and Figure 3.
DISCUSSION			
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	Subsection 3.1-3.2, Table 2, Figure 2 and Figure 3.
	23b	Discuss any limitations of the evidence included in the review.	Subsection 3.1-3.2.
	23c	Discuss any limitations of the review processes used.	Subsection 3.1-3.2.
	23d	Discuss implications of the results for practice, policy, and future research.	Subsection 3.1-3.2.
OTHER INFORMATION			
Registration and protocol	24a	Provide registration information for the review, including register name and registration number, or state that the review was not registered.	Not Registered
	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	Not Prepared
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	Not Registered
Support	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review.	Funding Section in Below Conclusion Section
Competing interests	26	Declare any competing interests of review authors.	Conflict of Interest Section in Below Conclusion Section



PRISMA 2020 Checklist

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Availability of data, code and other materials	27	Report which of the following are publicly available and where they can be found: template data collection forms; data extracted from included studies; data used for all analyses; analytic code; any other materials used in the review.	Last Sentence in The 2 nd Paragraph of Subsection 3.1

From: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71. doi: 10.1136/bmj.n71

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