

Table 2: AMSTAR 2 Checklist

16 Items of AMSTAR 2

1. Did the research questions and inclusion criteria for the review include the components of PICO?
 2. Did the report of the review contain an explicit statement that the review methods were established prior to the conduct of the review and did the report justify any significant deviations from the protocol?
 3. Did the review authors explain their selection of the study designs for inclusion in the review?
 4. Did the review authors use a comprehensive literature search strategy?
 5. Did the review authors perform study selection in duplicate?
 6. Did the review authors perform data extraction in duplicate?
 7. Did the review authors provide a list of excluded studies and justify the exclusions?
 8. Did the review authors describe the included studies in adequate detail?
 9. Did the review authors use a satisfactory technique for assessing the risk of bias (RoB) in individual studies that were included in the review?
 10. Did the review authors report on the sources of funding for the studies included in the review?
 11. If meta-analysis was performed did the review authors use appropriate methods for statistical combination of results?
 12. If meta-analysis was performed, did the review authors assess the potential impact of RoB in individual studies on the results of the meta-analysis or other evidence synthesis?
 13. Did the review authors account for RoB in individual studies when interpreting/ discussing the results of the review?
 14. Did the review authors provide a satisfactory explanation for, and discussion of, any heterogeneity observed in the results of the review?
 15. If they performed quantitative synthesis did the review authors carry out an adequate investigation of publication bias (small study bias) and discuss its likely impact on the results of the review?
 16. Did the review authors report any potential sources of conflict of interest, including any funding they received for conducting the review?
-

PICO: Population/Intervention /Comparator group/Outcome

Shea BJ, Reeves BC, Wells G, Thuku M, Hamel C, Moran J, Moher D, Tugwell P, Welch V, Kristjansson E, Henry DA. AMSTAR 2: a critical appraisal tool for systematic reviews that include randomized or non-randomized studies of healthcare interventions, or both. BMJ. 2017 Sep

21;358;j4008.

Table S3: Methodological quality assessment by AMSTAR 2

SRs	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 9	Item 10	Item 11	Item 12	Item 13	Item 14	Item 15	Item 16	In Total of Yes	Overall quality
1 Zhang Y 2017	PY	N	N	PY	Y	Y	N	PY	Y	N	PY	N	Y	Y	Y	Y	7(43.75%)	Critically low
2 Meng D 2016	PY	N	N	PY	N	N	N	PY	Y	N	PY	N	N	N	Y	Y	3(18.75%)	Critically low
3 Liao MX 2017	Y	N	N	PY	N	Y	N	PY	N	N	PY	N	N	N	N	Y	2(12.5)	Critically low
4 Zhu Y 2012	Y	N	N	PY	Y	Y	N	PY	Y	N	PY	N	N	N	Y	N	4(25%)	Critically low
5 Hu TJ 2015	PY	N	N	PY	N	Y	N	PY	Y	N	PY	N	Y	Y	Y	N	5(31.25%)	Critically low
6 Chen J 2015	Y	N	N	PY	Y	Y	N	PY	N	N	PY	N	N	N	Y	Y	4(25%)	Critically low
7 He J 2009	Y	N	N	PY	N	Y	N	PY	Y	N	PY	N	Y	N	Y	Y	6(37.5%)	Critically low
8 Yuan ML 2011	Y	N	N	PY	N	N	N	PY	N	N	PY	N	N	Y	Y	Y	4(25%)	Critically low
9 Tang Q 2019	Y	N	N	PY	Y	Y	N	PY	N	N	PY	N	N	N	Y	Y	5(31.25%)	Critically low
10 Tang XR 2019	Y	N	N	PY	Y	Y	N	PY	Y	N	PY	N	Y	N	Y	Y	7(43.75%)	Critically low

24	Ye QP 2017	Y	N	N	PY	Y	Y	N	PY	PY	N	Y	Y	Y	N	N	Y	7(43.75%)	low
25	Long YB 2012	Y	N	N	PY	Y	Y	N	PY	PY	N	Y	Y	Y	Y	N	Y	8(50%)	low
26	S.Y. Wong 2012	Y	N	N	PY	Y	Y	N	PY	PY	N	No meta	No meta	N	Y	no meta	N	4(25%)	low
27	Li LX 2018	Y	N	N	PY	Y	Y	N	PY	PY	N	Y	Y	Y	Y	Y	Y	9(56.25%)	low
28	Xie Y 2008	Y	Y	N	Y	Y	Y	Y	PY	Y	N	no meta	no meta	Y	Y	no meta	N	9(56.25%)	moderate
29	Yang A 2016	Y	Y	N	Y	Y	Y	Y	PY	Y	N	Y	Y	Y	Y	Y	N	12(75%)	moderate
30	Bath PM 2018	Y	Y	N	Y	Y	Y	Y	PY	Y	Y	Y	Y	Y	Y	Y	N	13(81.25%)	moderate
31	Geegana ge C 2012	Y	Y	N	Y	Y	Y	Y	PY	Y	N	Y	Y	Y	Y	Y	Y	13(81.25%)	moderate
In total of “Y”		27 (87.1 %)	4 (12.9 %)	0 (0%)	4 (12.9 %)	21 (67.7 %)	25 (80.6 %)	4 (12.9 %)	0 (0%)	20 (64.5 %)	1 (3.2%)	7 (22.6 %)	7 (22.6 %)	13 (41.9 %)	12 (38.7 %)	24 (77.4 %)	17(54.8%)		

SRs: Systematic reviews; Y: Yes; PY: Partial Yes; N: No; No meta: not conduct meta-analysis

Table S4: PRISMA checklist-2009

Section/topic	#	Checklist item
TITLE		
Title	1	Identify the report as a systematic review, meta-analysis, or both.
ABSTRACT		
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.
INTRODUCTION		
Rationale	3	Describe the rationale for the review in the context of what is already known.
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).
METHODS		
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.

Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).
Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I^2) for each meta-analysis.

Section/topic	#	Checklist item
Risk of bias across studies	15	Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies).
Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified.
RESULTS		
Study selection	17	Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram.
Study characteristics	18	For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations.

Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome level assessment (see item 12).
Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each intervention group (b) effect estimates and confidence intervals, ideally with a forest plot.
Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and measures of consistency.
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15).
Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]).
DISCUSSION		
Summary of evidence	24	Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., healthcare providers, users, and policy makers).
Limitations	25	Discuss limitations at study and outcome level (e.g., risk of bias), and at review-level (e.g., incomplete retrieval of identified research, reporting bias).
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research.
FUNDING		
Funding	27	Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review.

From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097. For more information, visit: www.prisma-statement.org.

Table S5: Reporting quality assessment by PRISMA

SRs

Item	11	Shi	L	12	Xu	MH	13	Li	S	14	Wang	15	Tian	Y	16	Yu	C	17	Wang	18	Li	JP	19	Liu	H	20	Huang
	2018			2017			2011			C	2017	2014			2016			LP	2006	2016			2016			WX	2016
1	N			Y			Y			Y		Y			Y			Y		Y			N			N	
2	Y			Y			Y			Y		Y			Y			Y		Y			Y			Y	
3	Y			Y			Y			Y		Y			Y			Y		Y			Y			Y	
4	Y			Y			Y			Y		Y			Y			Y		Y			Y			Y	
5	N			N			N			N		N			N			N		N			N			N	
6	Y			Y			Y			Y		Y			Y			Y		Y			Y			Y	
7	Y			Y			Y			Y		Y			Y			Y		Y			Y			Y	
8	N			N			N			Y		Y			N			Y		Y			Y			Y	
9	Y			N			N			Y		Y			Y			N		Y			Y			Y	
10	Y			Y			Y			Y		Y			N			N		Y			Y			Y	
11	Y			N			Y			Y		N			N			N		Y			Y			Y	
12	Y			N			N			N		Y			N			Y		Y			Y			Y	
13	Y			Y			Y			Y		Y			Y			Y		Y			Y			Y	
14	Y			Y			N			Y		Y			Y			Y		Y			Y			Y	
15	N			N			Y			N		Y			Y			Y		Y			Y			N	
16	N			N			Y			N		Y			N			Y		Y			Y			Y	
17	Y			Y			Y			Y		Y			Y			N		Y			Y			Y	
18	Y			N			Y			Y		Y			Y			Y		Y			Y			Y	
19	N			N			N			N		Y			N			Y		Y			Y			Y	
20	Y			Y			Y			Y		Y			Y			Y		Y			Y			Y	
21	Y			Y			Y			Y		Y			Y			Y		Y			Y			Y	
22	N			N			Y			N		Y			Y			Y		Y			Y			N	
23	N			N			Y			Y		N			N			Y		Y			Y			Y	
24	Y			Y			Y			Y		Y			Y			Y		Y			Y			Y	

25	N	N	N	N	Y	Y	N	Y	Y	Y
26	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
27	Y	N	Y	N	Y	Y	N	N	N	N
In total of "Yes"	19(70.4%)	11(40.7%)	21(77.8%)	21(77.8%)	24(88.9%)	20(74.1%)	20(74.1%)	25(92.6%)	25(92.6%)	23(85.2%)

SRs																		
Item	Chen 2018	YY	Xiang 2015	YX	Li LX 2019	Ye 2017	QP	Lon 2012	YB	S.Y. Wong 2012	Li LX 2018	Xie Y 2008	Yang 2016	A	Bath 2018	PM	Geeganage C 2012	
1	Y		Y		Y	Y		Y		Y	Y	Y	Y		Y		Y	
2	Y		Y		Y	Y		Y		Y	Y	Y	Y		Y		Y	
3	Y		Y		Y	Y		Y		Y	Y	Y	Y		Y		Y	
4	Y		Y		N	N		N		N	N	N	Y		Y		Y	
5	N		N		N	Y		N		N	Y	Y	Y		Y		Y	
6	Y		Y		Y	Y		Y		Y	Y	Y	Y		Y		Y	
7	Y		Y		Y	Y		Y		Y	Y	Y	Y		Y		Y	
8	N		Y		Y	N		N		N	Y	Y	Y		Y		Y	
9	Y		Y		Y	Y		Y		Y	Y	Y	Y		Y		Y	
10	Y		Y		Y	Y		Y		Y	Y	Y	Y		Y		Y	
11	Y		N		Y	N		Y		Y	Y	Y	Y		Y		Y	
12	Y		Y		Y	Y		Y		Y	Y	Y	Y		Y		Y	
13	Y		Y		Y	N		Y		N	Y	Y	Y		Y		Y	
14	Y		Y		Y	N		Y		N	Y	Y	Y		Y		Y	
15	N		Y		Y	N		Y		N	Y	Y	Y		Y		Y	
16	Y		Y		Y	Y		Y		N	Y	Y	Y		Y		Y	
17	Y		Y		Y	Y		Y		Y	Y	Y	Y		Y		Y	
18	Y		Y		Y	Y		Y		Y	Y	Y	Y		Y		Y	

19	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
20	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y
21	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y
22	N	Y	Y	N	Y	N	Y	Y	Y	Y	Y
23	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y
24	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
25	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y
26	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
27	N	N	Y	Y	N	N	N	N	N	N	N
In total of "Yes"	23(85.2%)	24(88.9%)	25(92.6%)	21(77.8%)	14(51.9%)	14(51.9%)	23(85.2%)	25(92.6%)	26(96.3%)	26(96.3%)	26(96.3%)

		Item of PRISMA								
		1	2	3	4	5	6	7	8	9
In total of "Yes"(31 SRs)		28 (90.3%)	31 (100%)	31 (100%)	25 (80.6%)	6 (19.4%)	31 (100%)	31 (100%)	18 (58%)	23 (74.2%)
		10	11	12	13	14	15	16	17	18
In total of "Yes"(31 SRs)		27 (87.1%)	19 (61.3%)	23 (74.2%)	28 (90.3%)	28 (90.3%)	22 (71%)	23 (74.2%)	29 (93.5%)	30 (97%)
		19	20	21	22	23	24	25	26	27
In total of "Yes"(31 SRs)		21 (67.7%)	30 (97%)	29 (93.5%)	22 (71%)	21 (67.7%)	31 (100%)	20 (64.5%)	31 (100%)	14 (45.2%)

Y: Yes; N: No.

