

'Feeding young children aged 1 to 5 years' — Annex 8

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Annex 8: AMSTAR 2 assessment of identified systematic reviews

AMSTAR 2 tool

- 1. The AMSTAR 2 is a quality assessment tool of systematic reviews (SRs) with or without meta-analyses (MA) of randomised and non-randomised studies. It is composed of a checklist of 16 items or domains (Shea et al, 2017). For the majority of items, responses are dichotomous ('yes' or 'no'). Five items also provide a 'partial yes' response.
- 2. The authors of AMSTAR 2 consider 7 of the 16 items to critically affect the validity of a SR and its conclusions. The critical domains suggested are items 2, 4, 7, 9, 11, 13, 15. The authors stress that this is advisory and that review appraisers should decide which items are most important for the SRs under consideration (Shea et al, 2017).
- 3. In the context of this risk assessment, item 2 (relating to protocol registration) and item 7 (relating to the list of excluded studies) were not considered as critical domains as registering the reviews and publishing the list of excluded studies are not standard practices in this area of work (the SRs identified for this risk assessment are mainly based on observational studies and tend to be more qualitative than quantitative).
- 4. The critical domains for this risk assessment were items 4, 9, 11, 13 and 15.
- 5. AMSTAR 2 is not intended to generate an overall score. However, the authors of AMSTAR 2 have proposed a scheme for interpreting weaknesses detected in critical and non-critical items or domains. The scheme is set out in Table A8.1.

Table A8.1 Rating overall confidence in the results of the SR

Rating	Description
High	No or one non-critical weakness: the systematic review provides an accurate
	and comprehensive summary of the results of the available studies that
	address the question of interest.
Moderate	More than one non-critical weakness: the systematic review has more than one
	weakness but no critical flaws. It may provide an accurate summary of the
	results of the available studies that were included in the review. Note that
	multiple non-critical weaknesses may diminish confidence in the review and it
	may be appropriate to move the overall appraisal down from moderate to low
	confidence.
Low	One critical flaw with or without non-critical weaknesses: the review has a
	critical flaw and may not provide an accurate and comprehensive summary of
	the available studies that address the question of interest.
Critically low	More than one critical flaw with or without non-critical weaknesses: the review
	has more than one critical flaw and should not be relied on to provide an
	accurate and comprehensive summary of the available studies.

AMSTAR 2 assessment of identified systematic reviews

- The AMSTAR 2 assessments of SRs identified for this risk assessment are presented by chapter in tabulated form.
- 2. The critical domains have been highlighted in yellow in the tables.
- 3. 'Not applicable' is used for items 11, 12 and 15 for SRs without MAs.

Energy and Macronutrients

Table A8.2 Systematic reviews on energy and macronutrients

Domains	Hörnell et al (2013)	Naude et al (2018)	Parsons et al (1999)	Rouhani et al (2016)	Voortman et al (2015a)	Voortman et al (2015b)
Population, Intervention, Comparator, Outcome	Yes	Yes	Yes	Yes	Yes	Yes
2. Protocol	No	Yes	No	No	No	No
3. Study design	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
4. Search strategy	Partial yes	Yes	Partial yes	Yes	Yes	Yes
5. Study selection duplication	Yes	Yes	No	No	Yes	Yes
6. Data extraction duplication	Yes	Yes	No	No	No	Yes
7. Excluded studies	Yes	Yes	No	No	No	No
8. Evidence tables	Yes	Yes	Partial yes	Yes	Yes	Yes
9. Risk of bias tool	Yes	Yes	No	No	No	No
10. Funding of included studies	No	Yes	No	No	No	No
11. Statistical analysis	Not applicable	Not applicable	Not applicable	Yes	Not applicable	Not applicable
12. Impact risk of bias assessed	Not applicable	Not applicable	Not applicable	No	Not applicable	Not applicable
13. Risk of bias discussed	Yes	Yes	Yes	No	Yes	Yes
14. Heterogeneity discussed	No	Yes	Yes	Yes	Yes	Yes
15. Publication bias	Not applicable	Not applicable	Not applicable	Yes	Not applicable	Not applicable
16. Declarations of interest	Yes	Yes	No	No	Yes	Yes
Overall confidence rating	Moderate	High	Critically low	Critically low	Low	Low

Micronutrients

Table A8.3 Systematic reviews on micronutrients

Domains	Athe et al (2014)	Das et al (2013)	De-Regil et al (2011)	Domellö f et al (2013)	Eichler et al (2012)	Hojsak et al (2018)	Imdad et al (2017)	Matsuya ma et al (2017)	Mayo- Wilson et al (2014)	Pasrich a et al (2013)	Pratt (2015)	Ramakri shnan et al (2009)	Thomps on et al (2013)
Population, Intervention, Comparator, Outcome	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2. Protocol	No	No	Yes	No	Partial yes	No	Yes	No	Yes	Partial yes	No	No	Partial yes
3. Study design	Not applicabl e	Not applicabl e	Not applicabl e	Not applicabl e	Not applicabl e	Not applicabl e	Not applicabl e	Not applicabl e	Not applicabl e	Not applicabl e	Not applicabl e	Not applicabl e	Not applicabl e
4. Search strategy	Yes	Yes	Yes ¹	Yes	Yes	Partial yes	Yes	Yes	Yes	Yes	Partial yes	Yes	Yes
5. Study selection duplication	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	Yes
6. Data extraction duplication	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	Yes
7. Excluded studies	No	No	Yes	No	No	No	Yes	No	Yes	Yes	No	No	Yes
8. Evidence tables	Partial yes	Partial yes	Yes	Yes	Partial yes	Partial yes	Yes	Yes	Yes	Yes	Yes	Partial yes	Yes
9. Risk of bias tool	Partial yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes
10. Funding of included studies	No	No	No	No	No	Yes	No	Yes	No	No	No	No	No
11. Statistical analysis	Yes	Yes	Yes	Not applicabl e	Yes	Not applicabl e	Yes	Yes	Yes	Yes	Not applicabl e	Yes	Yes

Domains	Athe et al (2014)	Das et al (2013)	De-Regil et al (2011)	Domellö f et al (2013)	Eichler et al (2012)	Hojsak et al (2018)	Imdad et al (2017)	Matsuya ma et al (2017)	Mayo- Wilson et al (2014)	Pasrich a et al (2013)	Pratt (2015)	Ramakri shnan et al (2009)	Thomps on et al (2013)
12. Impact risk of bias	No	No	Yes	Not applicabl e	Yes	Not applicabl e	Yes	Yes	No	Yes	Not applicabl e	No	No
13. Risk of bias discussed	No	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No ²	No	Yes
14. Heterogeneity discussed	Yes	Yes	Yes	No	Yes	No	Yes	No	Yes	Yes	No	Yes	Yes
15. Publication bias	Yes	No	Yes	Not applicabl e	No	Not applicabl e	Yes	Yes	Yes	Yes	Not applicabl e	Yes	Yes ³
16. Declarations of interest	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Overall confidence rating	Low	Critically low	High	Low ⁴	Low	Critically low	High	Moderat e	Moderat e	High	Critically low ⁴	Critically low	Moderat e

¹ Reference lists of included studies were not searched but the authors did search many databases (11 in total, including trials registries), contact authors, known experts and contacted organisations such as the World Health Organization, US Centers for Disease Control and Prevention, and UNICEF to identify unpublished studies.

² According to the AMSTAR criteria it should be a 'yes' as they included only studies at low risk of bias. However, it is not clear at all how they apply the CASP checklist and they do not specify which studies were excluded based on study quality criteria. The review team agreed in giving a 'no' to this question to highlight the lack of clarity and transparency.

³ Thompson et al (2013) conducted an extensive literature search of 6 databases and also searched the WHO regional databases. They commented that there was only a limited number of studies that were conducted mainly in lower middle income countries and that therefore their findings were only relevant to these countries.

⁴ Downgraded due to the high number of non-critical weaknesses.

Foods, dietary patterns and dietary components

Table A8.4 Systematic reviews on foods

Domains	de Beer (2012)	Dougkas et al (2019)	Dror and Allen (2014)	Ledoux et al (2011)
1. Population, Intervention, Comparator, Outcome	Yes	Yes	Yes	Yes
2. Protocol	No	No	No	No
3. Study design	Not applicable	Not applicable	Not applicable	Not applicable
4. Search strategy	No	Yes	Yes	Yes
5. Study selection duplication	No	No	No	No
6. Data extraction duplication	No	No	No	No
7. Excluded studies	No	No	No	No
8. Evidence tables	Partial yes	Partial yes	Partial yes	Partial yes
9. Risk of bias tool	Partial yes	No	No	No
10. Funding of included studies	No	Yes	No	No
11. Statistical analysis	No	Not applicable	Not applicable	Not applicable
12. Impact risk of bias assessed	Yes	Not applicable	Not applicable	Not applicable
13. Risk of bias discussed	No	Yes	No	No
14. Heterogeneity discussed	Yes	Yes	Yes	Yes
15. Publication bias	Yes	Not applicable	Not applicable	Not applicable
16. Declarations of interest	No	Yes	Yes	Yes
Overall confidence rating	Critically low	Low	Critically low	Critically low

Table A8.5 Systematic reviews on dietary patterns

Domains	Costa et al (2018)	Tandon et al (2016)
Population, Intervention, Comparator,	Voc	Vas
Outcome	Yes	Yes
2. Protocol	No	Partial yes
3. Study design	Not applicable	Not applicable
4. Search strategy	Yes	Partial yes
5. Study selection duplicate	Yes	Yes
6. Data extraction duplicate	No	No
7. Excluded studies	No	No
8. Evidence tables	Partial yes	Partial yes
9. Risk of bias tool	Partial yes	No
10. Funding of included studies	No	No
11. Statistical analysis	Not applicable	Not applicable
12. Impact risk of bias assessed	Not applicable	Not applicable
13. Risk of bias discussed	Yes	No
14. Heterogeneity discussed	No	Yes
15. Publication bias	Not applicable	Not applicable
16. Declarations of interest	Yes	No
Overall confidence rating	Moderate	Critically low

Table A8.6 Systematic reviews on dietary components

Domains	Karalexi et al (2018)	Onubi et al (2015)	WHO et al (2022)
1. Population, Intervention, Comparator, Outcome	Yes	Yes	Yes
2. Protocol	No	No	Partial yes
3. Study design	Not applicable	Not applicable	Not applicable
4. Search strategy	No	Partial yes	Yes
5. Study selection duplicate	Yes	Yes	Yes
6. Data extraction duplicate	Yes	Yes	No
7. Excluded studies	No	No	Yes
8. Evidence tables	Partial yes	Yes	Partial yes
9. Risk of bias tool	Partial yes	Yes	Yes
10. Funding of included studies	No	No	Yes
11. Statistical analysis	No	N/A	Yes
12. Impact risk of bias assessed	Yes	N/A	No
13. Risk of bias discussed	Yes	No	Yes
14. Heterogeneity discussed	Yes	Yes	Yes
15. Publication bias	Yes	Not applicable	Yes
16. Declarations of interest	Yes	Yes	No
Overall confidence rating	Critically low	Low	Moderate

Drinks

Table A8.7 Systematic reviews on drinks

Domains	Delgado and Matijasevich (2013)	Frantsve-Hawley et al (2017) Pe		Perez-Morales et al (2013)	Te Morenga et al (2012)	Vanderhout et al (2020)
Population, Intervention, Comparator, Outcome	Yes	Yes	Yes	Yes	Yes	Yes
2. Protocol	No	Partial yes	No	No	No	Partial yes
3. Study design	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
4. Search strategy	Partial yes	Yes	Partial yes	Partial yes	Yes	Yes
5. Study selection duplicate	No	Yes	Yes	Yes	Yes	Yes
6. Data extraction duplicate	No	Yes	No	No	Yes	Yes
7. Excluded studies	No	Partial yes	No	No	Yes	No
8. Evidence tables	Partial yes	Yes	Yes	Yes	Yes	Yes
9. Risk of bias tool	No	Yes	Partial yes	No	Partial yes	Partial yes
10. Funding of included studies	No	Yes	Yes	No	Yes	No
11. Statistical analysis	No	Not applicable	Not applicable	Not applicable	Yes	No
12. Impact risk of bias assessed	No	Not applicable	Not applicable	Not applicable	Yes	Yes
13. Risk of bias discussed	No	Yes	Yes	No	Yes	Yes
14. Heterogeneity discussed	Yes	Yes	Yes	No	Yes	Yes
15. Publication bias	No	Not applicable	Not applicable	Not applicable	Yes	Yes
16. Declarations of interest	No	No	Yes	No	Yes	Yes
Overall confidence rating	Critically low	Moderate	Low	Critically low	Moderate	Low

Eating and feeding behaviours

Table A8.8. Systematic reviews on eating and feeding behaviours

Domains	Appleto n et al (2018a)	Bergme ier et al (2015)	Blondin et al (2016)	Brown et al (2016)	Caleza et al (2016)	Hodder et al (2020)	Hurley et al (2011)	Kininm onth et al (2021)	Mikkels en et al (2014)	Mura Paroc he et al (2017)	Nekitsi ng et al (2018)	Osei- Assib ey et al (2012)	Russell et al (2016)	Ward et al (2015)
Population, Intervention, Comparator, Outcome	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2. Protocol	Yes	No	No	Yes	No	No	No	Yes	No	No	Partial yes	No	Partial yes	Partial yes
3. Study design	Not applicab le	Not applicab le	Not applicab le	Not applicab le	Not applicab le	Not applicab le	Not applicab le	Not applicab le	Not applicab le	Not applicab le	Not applicab le	Not applicab le	Not applicab le	Not applicab le
4. Search strategy	Yes	Yes	No	Partial yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5. Study selection duplication	Yes	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	No	Yes	Yes	Yes
6. Data extraction duplication	Yes	No	No	Yes	No	Yes	No	Yes	No	No	Yes	Yes	Yes	Yes
7. Excluded studies	No	Yes	No	No	No	Yes	No	No	No	No	No	No	No	No
8. Evidence tables	Yes	Partial yes	Partial yes	Partial yes	Partial yes	Yes	Partial yes	Partial yes	Partial yes	Yes	Yes	Partial yes	Partial yes	Partial yes
9. Risk of bias tool	Partial yes	No	No	Yes	Partial yes	Yes	Partial yes	Partial yes	Yes	No	Partial yes	Yes	Partial yes	Partial yes
10. Funding of included studies	No	No	No	No	No	Yes	No	No	No	No	No	No	No	No

Domains	Appleto n et al (2018a)	Bergme ier et al (2015)	Blondin et al (2016)	Brown et al (2016)	Caleza et al (2016)	Hodder et al (2020)	Hurley et al (2011)	Kininm onth et al (2021)	Mikkels en et al (2014)	Mura Paroc he et al (2017)	Nekitsi ng et al (2018)	Osei- Assib ey et al (2012)	Russell et al (2016)	Ward et al (2015)
11. Statistical analysis	Not applicab le	Not applicab le	Not applicab le	Not applicab le	Not applicab le	Yes	Not applicab le	Yes	Not applicab le	Not applicab le	No	Not applicab le	Not applicab le	Not applicab le
12. Impact risk of bias assessed	Not applicab le	Not applicab le	Not applicab le	Not applicab le	Not applicab le	Yes	Not applicab le	No	Not applicab le	Yes	Yes	Not applicab le	Not applicab le	Not applicab le
13. Risk of bias discussed	Yes	No	Yes	Yes	No	Yes	No	No	No	No	Yes	No	Yes	Yes
14. Heterogeneity discussed	Yes	No	Yes	Yes	Yes	Yes	No	No	Yes	No	Yes	Yes	Yes	Yes
15. Publication bias	Not applicab le	Not applicab le	Not applicab le	Not applicab le	Not applicab le	Yes	Not applicab le	No	Not applicab le	Not applicab le	Not applicab le	Not applicab le	Not applicab le	Not applicab le
16. Declarations of interest	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Not applicab le	Yes	Yes	Yes	Yes
Overall confidence rating	Moderat e	Critically low	Critically low	Moderat e	Critically low	High	Critically low	Critically low	Low	Critically low	Low	Low	Moderat e	Moderat e

Excess weight and obesity

Table A8.9 Systematic reviews on excess weight and obesity

Domains	Brisbois et al (2012)	Liewellyn et al (2016)		
1. Population, Intervention, Comparator, Outcome	Yes	Yes		
2. Protocol	No	Partial yes		
3. Study design	Not applicable	Not applicable		
4. Search strategy	Yes	Yes		
5. Study selection duplication	Yes	Yes		
6. Data extraction duplication	Yes	Yes		
7. Excluded studies	No	No		
8. Evidence tables	Partial yes	Partial yes		
9. Risk of bias tool	No	Yes		
10. Funding of included studies	Yes	No		
11. Statistical analysis	Not applicable	No		
12. Impact risk of bias assessed	Not applicable	No		
13. Risk of bias discussed	No	No		
14. Heterogeneity discussed	No	Yes		
15. Publication bias	Not applicable	No		
16. Declarations of interest	Yes	Yes		
Overall confidence rating	Critically low	Critically low		

Oral health

Table A8.10 Systematic reviews on oral health

Domains	Baghlaf et al (2018)	Cascaes et al (2022)	Hermont et al (2015)	Hooley et al (2012a)	Hooley et al (2012b)	Moores et al (2022)	Moynihan and Kelly (2014)	Moynihan (2019)	Tham et al (2015)	Thomaz et al (2018)
Population, Intervention, Comparator, Outcome	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2. Protocol	Yes	Partial yes	No	No	Partial yes	Partial yes	Yes	Partial yes	No	No
3. Study design	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
4. Search strategy	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
5. Study selection duplication	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
6. Data extraction duplication	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No	Yes
7. Excluded studies	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No
8. Evidence tables	Yes	Partial yes	Partial yes	Yes	Yes	Yes	Yes	Yes	Yes	Partial yes
9. Risk of bias tool	Partial yes	Partial yes	Partial yes	Partial yes	Partial yes	Yes	Partial yes	Yes	Yes	Yes
10. Funding of included studies	Yes	No	No	No	No	Yes	Yes	No	No	No
11. Statistical analysis	Not applicable	No	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Yes	No	Yes

Domains	Baghlaf et al (2018)	Cascaes et al (2022)	Hermont et al (2015)	Hooley et al (2012a)	Hooley et al (2012b)	Moores et al (2022)	Moynihan and Kelly (2014)	Moynihan (2019)	Tham et al (2015)	Thomaz et al (2018)
12. Impact risk	Not	Yes	Not	Not	Not	Not	Not	Yes	No	Yes
of bias assessed	applicable		applicable	applicable	applicable	applicable	applicable			
13. Risk of bias discussed	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
14.										
Heterogeneity	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes	Yes
discussed										
15. Publication	Not	Yes	Not	Not	Not	Not	Not	Yes	Yes	Yes
bias	applicable		applicable	applicable	applicable	applicable	applicable			
16. Declarations	Yes Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
of interest	162	5 165								
Overall					Critically					
confidence	High	Low	Moderate	Low ¹	low	High	High	Moderate	Low	Moderate
rating					IOW				,	

¹ Downgraded due to the high number of non-critical weaknesses