Appendix 1 – Preferred Reporting items for Systematic Reviews and Meta-analysis (PRISMA) Checklist (41)

Section	Item	Checklist item	Reported in section:
Title	1	Identify the report as a systematic review, meta-analysis, or both.	Title page
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.	Abstract
Rationale	3	Describe the rationale for the review in the context of what is already known.	Introduction
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	Introduction
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.	N/A
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.	Methods
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.	Methods
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	Appendix 2, more information on request
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).	Methods
Data collection	10	Describe method of data extraction from reports (e.g., piloted forms,	Methods

process		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.	Methods
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.	Methods
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	Methods
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.	Methods
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).	Methods
Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified.	Methods
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.	Figure 1
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.	Table 1
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).	Table 2
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.	Table 1
Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and measures of consistency.	Figure 2
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15).	Table 2

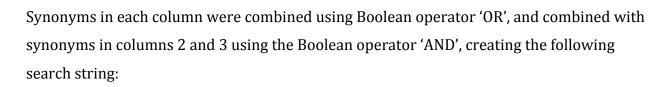| Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]).	Figure 3-5
Summary of evidence	24	Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., healthcare providers, users, and policy makers).	Discussion
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).	Discussion
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research.	Conclusion
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.	Title page

Appendix 2 – Search Strategy

1. Population: Children aged 18 years and younger	2. Measure Weight status determined by body mass index	3. Outcome Diagnosis of depression
Terms:	Terms:	Terms:
Child* Adolescen* School child* School age Teen* Pediatric*	Body mass index BMI Obes* Overweight Weight	Depress* Mood Affect* Psychiatric

Databases: Medline, EMBASE, PsycINFO

Limits: Publication date January 2000 to search date, human participants

Synonyms in each column were combined using Boolean operator 'OR', and combined with synonyms in columns 2 and 3 using the Boolean operator 'AND', creating the following search string:

[(Child* OR Adolescen* OR "school child*" OR "school age" OR teen* OR pediatric*) AND (Body mass index OR BMI OR obes* OR overweight OR weight) AND (depress* OR mood OR affect* OR psychiatric)]

This was adapted according to the database based used and where possible relevant MeSH terms where identified and used.

Appendix 3 Modified Newcastle-Ottawa quality assessment scale

COHORT/CROSS-SECTIONAL STUDIES

Note: A study can be awarded a maximum of one star for each numbered item within the Selection and Outcome categories. A maximum of two stars can be given for Comparability

Selection

1) Representativeness of the study population

  a) representative sample obtained from community setting e.g schools ✻

  b) purposeful selection to be representative of the community ✻

  c) selected group e.g ethnic minorities

  d) no description of the derivation of the study population

2) Ascertainment of exposure

  a) objectively recorded height and weight ✻

  b) self reported

  c) no description

3) Demonstration that outcome of interest was not present at start of study (Cohort)

  a) yes ✻

  b) no

Comparability

1) Comparability of cohorts on the basis of the design or analysis

  a) study controls for age, sex ✻

  b) study controls for some measure of socioeconomic status ✻

Outcome

1) Assessment of outcome

a) Use of depression specific rating scale, healthcare professional diagnosis or psychiatric interview✸

b) other tool e.g. single/multiple question in general questionnaire

c) self reported

d) no description

2) <u>Adequacy of follow up (cohorts studies)</u>

a) complete follow up - all subjects accounted for ✸

b) subjects lost to follow up unlikely to introduce bias – follow-up rate > 80 % ✸

c) follow up rate < 80% and no description of those lost

d) no statement