**Supplementary item 1:**

PubMed

**nipple stimulation OR nipple massage OR breast stimulation OR "early breastfeeding"[Title/Abstract:~4] OR "early breast feeding"[Title/Abstract:~4] OR "early breast sucking"[Title/Abstract:~4]**

(("nipples"[MeSH Terms] OR "nipples"[All Fields] OR "nipple"[All Fields]) AND ("stimulate"[All Fields] OR "stimulated"[All Fields] OR "stimulates"[All Fields] OR "stimulating"[All Fields] OR "stimulation"[All Fields] OR "stimulations"[All Fields] OR "stimulative"[All Fields] OR "stimulator"[All Fields] OR "stimulator s"[All Fields] OR "stimulators"[All Fields])) OR (("nipples"[MeSH Terms] OR "nipples"[All Fields] OR "nipple"[All Fields]) AND ("massage"[MeSH Terms] OR "massage"[All Fields] OR "massages"[All Fields] OR "massaged"[All Fields] OR "massager"[All Fields] OR "massagers"[All Fields] OR "massaging"[All Fields])) OR (("breast"[MeSH Terms] OR "breast"[All Fields] OR "breasts"[All Fields] OR "breast s"[All Fields]) AND ("stimulate"[All Fields] OR "stimulated"[All Fields] OR "stimulates"[All Fields] OR "stimulating"[All Fields] OR "stimulation"[All Fields] OR "stimulations"[All Fields] OR "stimulative"[All Fields] OR "stimulator"[All Fields] OR "stimulator s"[All Fields] OR "stimulators"[All Fields])) OR "early breastfeeding"[Title/Abstract:~4] OR "early breast feeding"[Title/Abstract:~4] OR "early breast sucking"[Title/Abstract:~4]

25582

AND

**"Labor Stage, Third"[Mesh] OR "delivery stage 3" OR "delivery stage III" OR "labor stage III" OR "labor stage, third" OR "labour stage 3" OR "labour stage III" OR "labour stage, third" OR "third delivery stage" OR "third labor stage" OR "third labour stage" OR "third stage of delivery" OR "third stage of labor" OR "third stage of labour" OR "labor stage 3" OR "postpartum bleed\*" OR "postpartum lochia" OR postpartum hemorrage OR "fluxus postpartum" OR "haemorrhage, postpartum" OR "hemorrhage, postpartum" OR "post partum haemorrhage" OR "post partum hemorrhage" OR "postpartal bleeding" OR "postpartal haemorrhage" OR "postpartal hemorrhage" OR "postpartum bleeding" OR "postpartum haemorrhage" OR "puerperal bleeding" OR "puerperal haemorrhage" OR "puerperal hemorrhage"**

labor stage, third"[MeSH Terms] OR (("deliveries"[All Fields] OR "delivery, obstetric"[MeSH Terms] OR ("delivery"[All Fields] AND "obstetric"[All Fields]) OR "obstetric delivery"[All Fields] OR "delivery"[All Fields]) AND ("stage"[All Fields] OR "staged"[All Fields] OR "stages"[All Fields] OR "staging"[All Fields] OR "stagings"[All Fields]) AND "3"[All Fields]) OR (("deliveries"[All Fields] OR "delivery, obstetric"[MeSH Terms] OR ("delivery"[All Fields] AND "obstetric"[All Fields]) OR "obstetric delivery"[All Fields] OR "delivery"[All Fields]) AND ("stage"[All Fields] OR "staged"[All Fields] OR "stages"[All Fields] OR "staging"[All Fields] OR "stagings"[All Fields]) AND "iii"[All Fields]) OR (("labor s"[All Fields] OR "labored"[All Fields] OR "laborer"[All Fields] OR "laborer s"[All Fields] OR "laborers"[All Fields] OR "laboring"[All Fields] OR "labors"[All Fields] OR "labour"[All Fields] OR "work"[MeSH Terms] OR "work"[All Fields] OR "labor"[All Fields] OR "labor, obstetric"[MeSH Terms] OR ("labor"[All Fields] AND "obstetric"[All Fields]) OR "obstetric labor"[All Fields] OR "laboured"[All Fields] OR "labourer"[All Fields] OR "labourers"[All Fields] OR "labouring"[All Fields] OR "labours"[All Fields]) AND ("stage"[All Fields] OR "staged"[All Fields] OR "stages"[All Fields] OR "staging"[All Fields] OR "stagings"[All Fields]) AND "iii"[All Fields]) OR "labor stage third"[All Fields] OR (("labor s"[All Fields] OR "labored"[All Fields] OR "laborer"[All Fields] OR "laborer s"[All Fields] OR "laborers"[All Fields] OR "laboring"[All Fields] OR "labors"[All Fields] OR "labour"[All Fields] OR "work"[MeSH Terms] OR "work"[All Fields] OR "labor"[All Fields] OR "labor, obstetric"[MeSH Terms] OR ("labor"[All Fields] AND "obstetric"[All Fields]) OR "obstetric labor"[All Fields] OR "laboured"[All Fields] OR "labourer"[All Fields] OR "labourers"[All Fields] OR "labouring"[All Fields] OR "labours"[All Fields]) AND ("stage"[All Fields] OR "staged"[All Fields] OR "stages"[All Fields] OR "staging"[All Fields] OR "stagings"[All Fields]) AND "3"[All Fields]) OR (("labor s"[All Fields] OR "labored"[All Fields] OR "laborer"[All Fields] OR "laborer s"[All Fields] OR "laborers"[All Fields] OR "laboring"[All Fields] OR "labors"[All Fields] OR "labour"[All Fields] OR "work"[MeSH Terms] OR "work"[All Fields] OR "labor"[All Fields] OR "labor, obstetric"[MeSH Terms] OR ("labor"[All Fields] AND "obstetric"[All Fields]) OR "obstetric labor"[All Fields] OR "laboured"[All Fields] OR "labourer"[All Fields] OR "labourers"[All Fields] OR "labouring"[All Fields] OR "labours"[All Fields]) AND ("stage"[All Fields] OR "staged"[All Fields] OR "stages"[All Fields] OR "staging"[All Fields] OR "stagings"[All Fields]) AND "iii"[All Fields]) OR "labour stage third"[All Fields] OR (("third"[All Fields] OR "thirds"[All Fields]) AND ("deliveries"[All Fields] OR "delivery, obstetric"[MeSH Terms] OR ("delivery"[All Fields] AND "obstetric"[All Fields]) OR "obstetric delivery"[All Fields] OR "delivery"[All Fields]) AND ("stage"[All Fields] OR "staged"[All Fields] OR "stages"[All Fields] OR "staging"[All Fields] OR "stagings"[All Fields])) OR "third labor stage"[All Fields] OR "third labour stage"[All Fields] OR (("third"[All Fields] OR "thirds"[All Fields]) AND ("stage"[All Fields] OR "staged"[All Fields] OR "stages"[All Fields] OR "staging"[All Fields] OR "stagings"[All Fields]) AND ("deliveries"[All Fields] OR "delivery, obstetric"[MeSH Terms] OR ("delivery"[All Fields] AND "obstetric"[All Fields]) OR "obstetric delivery"[All Fields] OR "delivery"[All Fields])) OR "third stage of labor"[All Fields] OR "third stage of labour"[All Fields] OR (("labor s"[All Fields] OR "labored"[All Fields] OR "laborer"[All Fields] OR "laborer s"[All Fields] OR "laborers"[All Fields] OR "laboring"[All Fields] OR "labors"[All Fields] OR "labour"[All Fields] OR "work"[MeSH Terms] OR "work"[All Fields] OR "labor"[All Fields] OR "labor, obstetric"[MeSH Terms] OR ("labor"[All Fields] AND "obstetric"[All Fields]) OR "obstetric labor"[All Fields] OR "laboured"[All Fields] OR "labourer"[All Fields] OR "labourers"[All Fields] OR "labouring"[All Fields] OR "labours"[All Fields]) AND ("stage"[All Fields] OR "staged"[All Fields] OR "stages"[All Fields] OR "staging"[All Fields] OR "stagings"[All Fields]) AND "3"[All Fields]) OR "postpartum bleed\*"[All Fields] OR "postpartum lochia"[All Fields] OR (("postpartum period"[MeSH Terms] OR ("postpartum"[All Fields] AND "period"[All Fields]) OR "postpartum period"[All Fields] OR "postpartum"[All Fields]) AND ("hemorrage"[All Fields] OR "hemorrages"[All Fields] OR "hemorragic"[All Fields])) OR ("fluxus"[All Fields] AND ("postpartum period"[MeSH Terms] OR ("postpartum"[All Fields] AND "period"[All Fields]) OR "postpartum period"[All Fields] OR "postpartum"[All Fields])) OR "haemorrhage postpartum"[All Fields] OR "hemorrhage postpartum"[All Fields] OR "post partum haemorrhage"[All Fields] OR "post partum hemorrhage"[All Fields] OR "postpartal bleeding"[All Fields] OR "postpartal haemorrhage"[All Fields] OR "postpartal hemorrhage"[All Fields] OR "postpartum bleeding"[All Fields] OR "postpartum haemorrhage"[All Fields] OR "puerperal bleeding"[All Fields] OR (("postpartum period"[MeSH Terms] OR ("postpartum"[All Fields] AND "period"[All Fields]) OR "postpartum period"[All Fields] OR "puerperal"[All Fields] OR "puerperally"[All Fields] OR "puerperant"[All Fields] OR "puerperants"[All Fields]) AND ("blood"[MeSH Subheading] OR "blood"[All Fields] OR "blood"[MeSH Terms] OR "bloods"[All Fields] OR "haematology"[All Fields] OR "hematology"[MeSH Terms] OR "hematology"[All Fields] OR "haematoma"[All Fields] OR "hematoma"[MeSH Terms] OR "hematoma"[All Fields] OR "haemorrhage"[All Fields] OR "hemorrhage"[MeSH Terms] OR "hemorrhage"[All Fields] OR "haemorrhages"[All Fields] OR "hemorrhages"[All Fields] OR "haemorrhagic"[All Fields] OR "haemorrhaging"[All Fields] OR "hematologies"[All Fields] OR "haematomas"[All Fields] OR "hematomas"[All Fields] OR "hematoma s"[All Fields] OR "hematomae"[All Fields] OR "hemorrhaged"[All Fields] OR "hemorrhagic"[All Fields] OR "hemorrhagical"[All Fields] OR "hemorrhaging"[All Fields])) OR "puerperal hemorrhage"[All Fields]

82593

359

EMBASE

Embase

Session Results

.......................................................

No. Query Results Results Date

#16. #10 AND #15 70 31 Jan 2024

#15. #11 OR #12 OR #13 OR #14 23,607 31 Jan 2024

#14. 'fluxus postpartum' OR 'haemorrhage, postpartum' 22,771 31 Jan 2024

OR 'hemorrhage, postpartum' OR 'post partum

haemorrhage' OR 'post partum hemorrhage' OR

'postpartal bleeding' OR 'postpartal haemorrhage'

OR 'postpartal hemorrhage' OR 'postpartum

bleeding' OR 'postpartum haemorrhage' OR

'puerperal bleeding' OR 'puerperal haemorrhage'

OR 'puerperal hemorrhage' OR 'postpartum

hemorrhage'

#13. 'postpartum hemorrhage'/exp 20,247 31 Jan 2024

#12. 'delivery stage 3' OR 'delivery stage iii' OR 1,927 31 Jan 2024

'labor stage iii' OR 'labor stage, third' OR

'labour stage 3' OR 'labour stage iii' OR 'labour

stage, third' OR 'third delivery stage' OR 'third

labor stage' OR 'third labour stage' OR 'third

stage of delivery' OR 'third stage of labor' OR

'third stage of labour' OR 'labor stage 3'

#11. 'labor stage 3'/exp 1,226 31 Jan 2024

#10. #1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR 17,357 31 Jan 2024

#9

#9. 'breast suck\*' 20 31 Jan 2024

#8. nipple AND stimulation 424 31 Jan 2024

#7. early NEAR/4 'breast suck\*' 1 31 Jan 2024

#6. early NEAR/4 'breast feeding' 608 31 Jan 2024

#5. early NEAR/4 breastfeeding 2,818 31 Jan 2024

#4. breast AND stimulation 13,983 31 Jan 2024

#3. 'breast stimulation'/exp 39 31 Jan 2024

#2. 'nipple massage' OR (('nipple'/exp OR nipple) AND 83 31 Jan 2024

('massage'/exp OR massage))

#1. 'nipple stimulation'/exp OR 'nipple stimulation' 152 31 Jan 2024

Cochrane

Search Name:

Date Run: 01/02/2024 01:38:55

Comment:

ID Search Hits

#1 (nipple stimulation):ti,ab,kw (Word variations have been searched) 75

#2 MeSH descriptor: [Nipples] explode all trees 132

#3 stimulation OR massage 70914

#4 #2 AND #3 16

#5 (nipple massage):ti,ab,kw (Word variations have been searched) 30

#6 early NEAR/4 breastfeeding 436

#7 early NEAR/4 "breast feeding" 78

#8 early NEAR/4 "breast sucking" 1

#9 (breast stimulation):ti,ab,kw (Word variations have been searched) 2077

#10 #1 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 2611

#11 MeSH descriptor: [Labor Stage, Third] explode all trees 199

#12 "delivery stage 3" OR "delivery stage III" OR "labor stage III" OR "labor stage, third" OR "labour stage 3" OR "labour stage III" OR "labour stage, third" OR "third delivery stage" OR "third labor stage" OR "third labour stage" OR "third stage of delivery" OR "third stage of labor" OR "third stage of labour" OR "labor stage 3" OR (postpartum NEXT bleed) OR "postpartum lochia" OR postpartum hemorrage OR "fluxus postpartum" OR "haemorrhage, postpartum" OR "hemorrhage, postpartum" OR "post partum haemorrhage" OR "post partum hemorrhage" OR "postpartal bleeding" OR "postpartal haemorrhage" OR "postpartal hemorrhage" OR "postpartum bleeding" OR "postpartum haemorrhage" OR "puerperal bleeding" OR "puerperal haemorrhage" OR "puerperal hemorrhage" 3543

#13 MeSH descriptor: [Labor, Obstetric] explode all trees 3066

#14 #11 OR #12 3544

#15 #10 AND #14 47

CiNAHL

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **#** | **Query** | **Limiters/Expanders** | **Last Run Via** | **Results** |
| S14 | S8 AND S13 | Expanders - Apply equivalent subjects Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Complete | 22 |
| S13 | S9 OR S10 OR S11 OR S12 | Expanders - Apply equivalent subjects Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Complete | 4,204 |
| S12 | "postpartum bleed\*" OR "postpartum lochia" OR postpartum hemorrage OR "fluxus postpartum" OR "haemorrhage, postpartum" OR "hemorrhage, postpartum" OR "post partum haemorrhage" OR "post partum hemorrhage" OR "postpartal bleeding" OR "postpartal haemorrhage" OR "postpartal hemorrhage" OR "postpartum bleeding" OR "postpartum haemorrhage" OR "puerperal bleeding" OR "puerperal haemorrhage" OR "puerperal hemorrhage" | Expanders - Apply equivalent subjects Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Complete | 3,740 |
| S11 | (MM "Postpartum Hemorrhage") | Expanders - Apply equivalent subjects Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Complete | 2,894 |
| S10 | "delivery stage 3" OR "delivery stage III" OR "labor stage III" OR "labor stage, third" OR "labour stage 3" OR "labour stage III" OR "labour stage, third" OR "third delivery stage" OR "third labor stage" OR "third labour stage" OR "third stage of delivery" OR "third stage of labor" OR "third stage of labour" OR "labor stage 3" | Expanders - Apply equivalent subjects Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Complete | 752 |
| S9 | (MM "Labor Stage, Third") | Expanders - Apply equivalent subjects Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Complete | 372 |
| S8 | S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 | Expanders - Apply equivalent subjects Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Complete | 1,971 |
| S7 | "breast sucking" | Expanders - Apply equivalent subjects Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Complete | 6 |
| S6 | early N4 "breast feeding" | Expanders - Apply equivalent subjects Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Complete | 199 |
| S5 | early N4 breastfeeding | Expanders - Apply equivalent subjects Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Complete | 1,542 |
| S4 | breast stimulation | Expanders - Apply equivalent subjects Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Complete | 165 |
| S3 | nipple AND massage | Expanders - Apply equivalent subjects Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Complete | 25 |
| S2 | nipple AND stimulation | Expanders - Apply equivalent subjects Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Complete | 74 |
| S1 | nipple stimulation | Expanders - Apply equivalent subjects Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Complete | 41 |

22

Scopus

(TITLE-ABS-KEY(nipple stimulation OR nipple massage OR breast stimulation OR "early breastfeeding" OR "early breast feeding" OR "early breast suck\*")) AND (TITLE-ABS-KEY("Labor Stage, Third" OR "delivery stage 3" OR "delivery stage III" OR "labor stage III" OR "labor stage, third" OR "labour stage 3" OR "labour stage III" OR "labour stage, third" OR "third delivery stage" OR "third labor stage" OR "third labour stage" OR "third stage of delivery" OR "third stage of labor" OR "third stage of labour" OR "labor stage 3" OR "postpartum bleed\*" OR "postpartum lochia" OR postpartum hemorrage OR "fluxus postpartum" OR "haemorrhage, postpartum" OR "hemorrhage, postpartum" OR "post partum haemorrhage" OR "post partum hemorrhage" OR "postpartal bleeding" OR "postpartal haemorrhage" OR "postpartal hemorrhage" OR "postpartum bleeding" OR "postpartum haemorrhage" OR "puerperal bleeding" OR "puerperal haemorrhage" OR "puerperal hemorrhage"))

10

Web of Science

# Web of Science Search Strategy (v0.1)

# Database: Web of Science Core Collection

# Entitlements:

- WOS.IC: 1993 to 2024

- WOS.CCR: 1985 to 2024

- WOS.SCI: 1900 to 2024

- WOS.AHCI: 1975 to 2024

- WOS.BHCI: 2005 to 2024

- WOS.BSCI: 2005 to 2024

- WOS.ESCI: 2005 to 2024

- WOS.ISTP: 1990 to 2024

- WOS.SSCI: 1900 to 2024

- WOS.ISSHP: 1990 to 2024

# Searches:

1: TS=(nipple stimulation OR nipple massage OR breast stimulation OR "early breastfeeding" OR "early breast feeding" OR "early breast suck\*") Date Run: Mon Feb 05 2024 14:33:23 GMT+1000 (Australian Eastern Standard Time) Results: 10859

2: TS=("Labor Stage, Third" OR "delivery stage 3" OR "delivery stage III" OR "labor stage III" OR "labor stage, third" OR "labour stage 3" OR "labour stage III" OR "labour stage, third" OR "third delivery stage" OR "third labor stage" OR "third labour stage" OR "third stage of delivery" OR "third stage of labor" OR "third stage of labour" OR "labor stage 3" OR "postpartum bleed\*" OR "postpartum lochia" OR postpartum hemorrage OR "fluxus postpartum" OR "haemorrhage, postpartum" OR "hemorrhage, postpartum" OR "post partum haemorrhage" OR "post partum hemorrhage" OR "postpartal bleeding" OR "postpartal haemorrhage" OR "postpartal hemorrhage" OR "postpartum bleeding" OR "postpartum haemorrhage" OR "puerperal bleeding" OR "puerperal haemorrhage" OR "puerperal hemorrhage") Date Run: Mon Feb 05 2024 14:34:32 GMT+1000 (Australian Eastern Standard Time) Results: 4722

3: #1 AND #2 Date Run: Mon Feb 05 2024 14:35:01 GMT+1000 (Australian Eastern Standard Time) Results: 16

**Supplementary item 2.** Preferred Reporting Item for Systematic Reviews and Meta-Analyses (PRISMA) Checklist

| **Section and Topic** | **Item #** | **Checklist item** | **Location where item is reported** |
| --- | --- | --- | --- |
| **TITLE** | | |  |
| Title | 1 | Identify the report as a systematic review. | Page 1 |
| **ABSTRACT** | | |  |
| Abstract | 2 | See the PRISMA 2020 for Abstracts checklist. | Pages 1-2 |
| **INTRODUCTION** | | |  |
| Rationale | 3 | Describe the rationale for the review in the context of existing knowledge. | Pages 3-4 |
| Objectives | 4 | Provide an explicit statement of the objective(s) or question(s) the review addresses. | Pages 4-5 |
| **METHODS** | | |  |
| Eligibility criteria | 5 | Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses. | 2.2, Pages 5-6 |
| 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. | 2.1, Page 5 |
| Search strategy | 7 | Present the full search strategies for all databases, registers and websites, including any filters and limits used. | Supp. Item 1 |
| 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. | 2.2, Pages 5-6 |
| 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 process. | Page 6 |
| 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. | 2.3, Page 6 |
| 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. | 2.3, Page 6 |
| 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. | Pages 7-8 |
| 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. | Page 9-11 |
| 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)). | Page 7 |
| 13b | Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions. | Pages 7-8 |
| 13c | Describe any methods used to tabulate or visually display results of individual studies and syntheses. | Page 8 |
| 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. | 2.4, page 6 |
| 13e | Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression). | Page 10 |
| 13f | Describe any sensitivity analyses conducted to assess robustness of the synthesized results. |  |
| Reporting bias assessment | 14 | Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases). | Pages 7-8 |
| Certainty assessment | 15 | Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome. | Pages 7-8 |
| **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. | Figure 1 |
| Study characteristics | 17 | Cite each included study and present its characteristics. | Table 1 |
| Risk of bias in studies | 18 | Present assessments of risk of bias for each included study. | Figures 2-3 |
| 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. | Figure 4 |
| Results of syntheses | 20a | For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies. | Pages 7-8 |
| 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. | Pages 9-11 |
| 20c | Present results of all investigations of possible causes of heterogeneity among study results. | Page 10 |
| 20d | Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results. |  |
| Reporting biases | 21 | Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed. | Pages 7-8 |
| Certainty of evidence | 22 | Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed. | Pages 9-11 |
| **DISCUSSION** | | |  |
| Discussion | 23a | Provide a general interpretation of the results in the context of other evidence. | Pages 12-15 |
| 23b | Discuss any limitations of the evidence included in the review. | Pages 15-16 |
| 23c | Discuss any limitations of the review processes used. | Pages 15-16 |
| 23d | Discuss implications of the results for practice, policy, and future research. | Pages 16-17 |
| **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. | Page 1 |
| 24b | Indicate where the review protocol can be accessed, or state that a protocol was not prepared. | Page 1 |
| 24c | Describe and explain any amendments to information provided at registration or in the protocol. |  |
| Support | 25 | Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review. | Page 2 |
| Competing interests | 26 | Declare any competing interests of review authors. | Title page 2 |
| 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. |  |

**Supplementary item 3.** Preferred Reporting Item for Systematic Reviews and Meta-Analyses (PRISMA) for Abstracts Checklist

| **Section and Topic** | **Item #** | **Checklist item** | **Reported (Yes/No)** |
| --- | --- | --- | --- |
| **TITLE** | | |  |
| Title | 1 | Identify the report as a systematic review. | yes |
| **BACKGROUND** | | |  |
| Objectives | 2 | Provide an explicit statement of the main objective(s) or question(s) the review addresses. | yes |
| **METHODS** | | |  |
| Eligibility criteria | 3 | Specify the inclusion and exclusion criteria for the review. | yes |
| Information sources | 4 | Specify the information sources (e.g. databases, registers) used to identify studies and the date when each was last searched. | yes |
| Risk of bias | 5 | Specify the methods used to assess risk of bias in the included studies. | no |
| Synthesis of results | 6 | Specify the methods used to present and synthesise results. | no |
| **RESULTS** | | |  |
| Included studies | 7 | Give the total number of included studies and participants and summarise relevant characteristics of studies. | yes |
| Synthesis of results | 8 | Present results for main outcomes, preferably indicating the number of included studies and participants for each. If meta-analysis was done, report the summary estimate and confidence/credible interval. If comparing groups, indicate the direction of the effect (i.e. which group is favoured). | Yes, no to latter |
| **DISCUSSION** | | |  |
| Limitations of evidence | 9 | Provide a brief summary of the limitations of the evidence included in the review (e.g. study risk of bias, inconsistency and imprecision). | no |
| Interpretation | 10 | Provide a general interpretation of the results and important implications. | yes |
| **OTHER** | | |  |
| Funding | 11 | Specify the primary source of funding for the review. | yes |
| Registration | 12 | Provide the register name and registration number. | yes |