

Appendix 1: Search strategy

PubMed Strategy

("Oral Health"[Mesh] OR "Oral Hygiene"[Mesh] OR "Dental Health Services"[Mesh] OR "Dental Care"[Mesh] OR (Oral Health) OR (Oral Hygiene) OR (Dental Health Services) OR (Dental Care) OR (Dental Health) OR (Dental Hygiene) OR (Dental Procedure) OR (Mouth Hygiene) OR (Tooth Hygiene) OR (Teeth Hygiene) OR (Oral Care) OR (Tooth Care) OR (Teeth Care) OR (Mouth Care)) **AND** ("Prenatal Care"[Mesh] OR "Pregnancy"[Mesh] OR "Pregnant Women"[Mesh] OR (Prenatal Care) OR Pregnancy OR (Pregnant Women) OR Prenatal OR Antenatal OR Gestation OR Pregnant) **AND** ("Dental Caries"[Mesh] OR "Infant, Low Birth Weight"[Mesh] OR "Premature Birth"[Mesh] OR "Infant, Premature"[Mesh] OR "Fetal Death"[Mesh] OR "Attitude to Health"[Mesh] OR "Health Behavior"[Mesh] OR "Health Education, Dental"[Mesh] OR Caries OR (Tooth Decay) OR (Teeth Decay) OR (Dental Decay) OR (Dental Fissure) OR (Dental Fissures) OR (Tooth Fissure) OR (Tooth Fissures) OR (Teeth Fissure) OR (Teeth Fissures) OR (Cariious Dentin) OR (Cariious Dentine) OR (White Spot) OR (White Spots) OR Cavity OR Cavities OR (Low Birth Weight) OR Underweight OR Premature OR (Pre Mature) OR Prematurity OR Prematuritas OR Preterm OR (Pre Term) OR (Fetus Death) OR (Fetus Death) OR (Fetus Deaths) OR (Fetus Demise) OR (Fetus Mummification) OR (Fetus Resorption) OR (Fetus Resorptions) OR (Fetal Deaths) OR (Fetal Demise) OR (Fetal Mummification) OR (Fetal Resorption) OR (Fetal Resorptions) OR Stillbirth OR Stillbirths OR Stillborn OR (Health Attitude) OR (Health Attitudes) OR (Health Knowledge) OR (Health Behavior) OR (Health Behaviors) OR (Health Behaviour) OR (Health Behaviours) OR (Health Education)) **AND** (randomized controlled trial[pt] OR controlled clinical trial[pt] OR randomized[tiab] OR placebo[tiab] OR drug therapy[sh] OR randomly[tiab] OR trial[tiab] OR groups[tiab] NOT (animals [mh] NOT humans [mh]))

Embase Strategy

('Mouth Hygiene'/exp OR 'Dental Procedure'/exp OR 'Dental health'/exp OR (Oral Health) OR (Oral Hygiene) OR (Dental Health Services) OR (Dental Care) OR (Dental Health) OR (Dental Hygiene) OR (Dental Procedure) OR (Mouth Hygiene) OR (Tooth Hygiene) OR (Teeth Hygiene) OR (Oral Care) OR (Tooth Care) OR (Teeth Care) OR (Mouth Care)) **AND** ('Prenatal Care'/exp OR 'Pregnancy'/exp OR 'Pregnant Woman'/exp OR (Prenatal Care) OR Pregnancy OR (Pregnant Women) OR Prenatal OR Antenatal OR Gestation OR Pregnant) **AND** ('Dental Caries'/exp OR 'Low Birth Weight'/exp OR 'Prematurity'/exp OR 'Fetus Death'/exp OR 'Attitude to Health'/exp OR 'Health Behavior'/exp OR 'Dental Health Education'/exp OR Caries OR (Tooth Decay) OR (Teeth Decay) OR (Dental Decay) OR (Dental Fissure) OR (Dental Fissures) OR (Tooth Fissure) OR (Tooth Fissures) OR (Teeth Fissure) OR (Teeth Fissures) OR (Cariious Dentin) OR (Cariious Dentine) OR (White Spot) OR (White Spots) OR Cavity OR Cavities OR (Low Birth Weight) OR Underweight OR Premature OR (Pre Mature) OR Prematurity OR Prematuritas OR Preterm OR (Pre Term) OR (Fetus Death) OR (Fetus Death) OR (Fetus Deaths) OR (Fetus Demise) OR (Fetus Mummification) OR (Fetus Resorption) OR (Fetus Resorptions) OR (Fetal Death) OR (Fetal Deaths) OR (Fetal Demise) OR (Fetal Mummification) OR (Fetal Resorption) OR (Fetal Resorptions) OR Stillbirth OR Stillbirths OR Stillborn OR (Health Attitude) OR (Health Attitudes) OR (Health Knowledge) OR (Health Behavior) OR (Health Behaviors) OR (Health Behaviour) OR (Health Behaviours) OR (Health Education)) **AND** ('crossover procedure':de OR 'double-blind procedure':de OR 'randomized controlled trial':de OR 'single-blind procedure':de OR (random* OR factorial* OR crossover* OR cross NEXT/1 over* OR placebo* OR doubl* NEAR/1 blind* OR singl* NEAR/1 blind* OR assign* OR allocat* OR volunteer*):de,ab,ti)

Web of Science Strategy

((Oral Health) OR (Oral Hygiene) OR (Dental Health Services) OR (Dental Care) OR (Dental Health) OR (Dental Hygiene) OR (Dental Procedure) OR (Mouth Hygiene) OR (Tooth Hygiene) OR (Teeth Hygiene) OR (Oral Care) OR (Tooth Care) OR (Teeth Care) OR (Mouth Care)) **AND** ((Prenatal Care) OR Pregnancy OR (Pregnant Women) OR Prenatal OR Antenatal OR Gestation OR Pregnant) **AND** (Caries OR (Tooth Decay) OR (Teeth Decay) OR (Dental Decay) OR (Dental Fissure) OR (Dental Fissures) OR (Tooth Fissure) OR (Tooth Fissures) OR (Teeth Fissure) OR (Teeth Fissures) OR (Cariou Dentin) OR (Cariou Dentine) OR (White Spot) OR (White Spots) OR Cavity OR Cavities OR (Low Birth Weight) OR Underweight OR Premature OR (Pre Mature) OR Prematurity OR Prematuritas OR Preterm OR (Pre Term) OR (Fetus Death) OR (Fetus Death) OR (Fetus Deaths) OR (Fetus Demise) OR (Fetus Mummification) OR (Fetus Resorption) OR (Fetus Resorptions) OR (Fetal Death) OR (Fetal Deaths) OR (Fetal Demise) OR (Fetal Mummification) OR (Fetal Resorption) OR (Fetal Resorptions) OR Stillbirth OR Stillbirths OR Stillborn OR (Health Attitude) OR (Health Attitudes) OR (Health Knowledge) OR (Health Behavior) OR (Health Behaviors) OR (Health Behaviour) OR (Health Behaviours) OR (Health Education)) **AND** (random* OR factorial* OR crossover* OR (cross over*) OR placebo* OR (doubl* AND blind*) OR (singl* AND blind*) OR assign* OR allocat* OR volunteer*)

LILACS Database Strategy

((Oral Health) OR (Oral Hygiene) OR (Dental Health Services) OR (Dental Care) OR (Dental Health) OR (Dental Hygiene) OR (Dental Procedure) OR (Mouth Hygiene) OR (Tooth Hygiene) OR (Teeth Hygiene) OR (Oral Care) OR (Tooth Care) OR (Teeth Care) OR (Mouth Care)) **AND** ((Prenatal Care) OR Pregnancy OR (Pregnant Women) OR Prenatal OR Antenatal OR Gestation OR Pregnant) **AND** (Caries OR (Tooth Decay) OR (Teeth Decay) OR (Dental Decay) OR (Dental Fissure) OR (Dental Fissures) OR (Tooth Fissure) OR (Tooth Fissures) OR (Teeth Fissure) OR (Teeth Fissures) OR (Cariou Dentin) OR (Cariou Dentine) OR (White Spot) OR (White Spots) OR Cavity OR Cavities OR (Low Birth Weight) OR Underweight OR Premature OR (Pre Mature) OR Prematurity OR Prematuritas OR Preterm OR (Pre Term) OR (Fetus Death) OR (Fetus Death) OR (Fetus Deaths) OR (Fetus Demise) OR (Fetus Mummification) OR (Fetus Resorption) OR (Fetus Resorptions) OR (Fetal Death) OR (Fetal Deaths) OR (Fetal Demise) OR (Fetal Mummification) OR (Fetal Resorption) OR (Fetal Resorptions) OR Stillbirth OR Stillbirths OR Stillborn OR (Health Attitude) OR (Health Attitudes) OR (Health Knowledge) OR (Health Behavior) OR (Health Behaviors) OR (Health Behaviour) OR (Health Behaviours) OR (Health Education)) **AND** (random* OR factorial* OR crossover* OR (cross over*) OR placebo* OR (doubl* AND blind*) OR (singl* AND blind*) OR assign* OR allocat* OR volunteer*)

Cochrane Database Strategy

((Oral Health) OR (Oral Hygiene) OR (Dental Health Services) OR (Dental Care) OR (Dental Health) OR (Dental Hygiene) OR (Dental Procedure) OR (Mouth Hygiene) OR (Tooth Hygiene) OR (Teeth Hygiene) OR (Oral Care) OR (Tooth Care) OR (Teeth Care) OR (Mouth Care)) **AND** ((Prenatal Care) OR Pregnancy OR (Pregnant Women) OR Prenatal OR Antenatal OR Gestation OR Pregnant) **AND** (Caries OR (Tooth Decay) OR (Teeth Decay) OR (Dental Decay) OR (Dental Fissure) OR (Dental Fissures) OR (Tooth Fissure) OR (Tooth Fissures) OR (Teeth Fissure) OR (Teeth Fissures) OR (Cariou Dentin) OR (Cariou Dentine) OR (White Spot) OR (White Spots) OR Cavity OR Cavities OR (Low Birth Weight) OR Underweight OR Premature OR (Pre Mature) OR Prematurity OR Prematuritas OR Preterm OR (Pre Term) OR (Fetus Death) OR (Fetus Death) OR (Fetus Deaths) OR (Fetus Demise) OR (Fetus Mummification) OR (Fetus Resorption) OR (Fetus Resorptions) OR (Fetal Death) OR (Fetal Deaths) OR (Fetal Demise) OR (Fetal Mummification) OR (Fetal Resorption) OR (Fetal Resorptions) OR Stillbirth OR Stillbirths OR Stillborn OR (Health Attitude) OR (Health Attitudes) OR (Health Knowledge) OR (Health Behavior) OR (Health Behaviors) OR (Health Behaviour) OR (Health Behaviours) OR (Health Education)) **AND** (random* OR factorial* OR crossover* OR (cross over*) OR placebo* OR (doubl* AND blind*) OR (singl* AND blind*) OR assign* OR allocat* OR volunteer*)

ClinicalTrials.gov Strategy

((Oral OR Dental OR Mouth OR Touth OR Teeth) AND (Health OR Hygiene OR Care OR Procedure))
AND (Pregnancy OR Pregnant OR Prenatal OR Antenatal OR Gestation) **AND** (Caries OR Carious OR
((Tooth OR Teeth OR Dental) AND (Decay OR Fissure*)) OR (White Spot*) OR Cavit*) / ((Low Birth
Weight) OR Underweight OR Premature OR (Pre Mature) OR Prematurity OR Preterm OR (Pre Term)
OR ((Fetus OR Fetal) AND (Death* OR Demise OR Mummification OR Resorption*)) OR Stillbirth* OR
Stillborn) / ((Health Attitude*) OR (Health Knowledge) OR (Health Behavior*) OR (Health Behaviour*)
OR (Health Education))

Appendix 2: Data extraction form

Reviewer: _____ Date: _____
Study ID: _____
Title: _____
Lead author (First and Corresponding): _____
Publication year: _____ Country: _____ language: _____
Journal: _____
Aim of the study: _____

Part I: Study Methods

Design:

- Randomized clinical trial
- Non-randomized clinical trial
- other (describe) _____

Origin of the study:

City _____ State/Province _____ Country: _____

Subject recruitment site:

- Hospital/Dental School clinic
- Community
- Epidemiology Study site
- Other (describe) _____

Study visits: _____ Didn't specify

Study duration: _____ Didn't specify

How many examiners? _____

Examiner Intra and inter-Calibration? _____

Part II: Subject Information

Subject age: _____

Number of subjects: _____

Subject race (number/percentage if applicable):

- Caucasian _____
- African American _____
- Asian _____
- Others (describe) _____

Subject medical background:

- Healthy
- non-healthy (specify disease) _____

Part III: Oral Health Care Delivery Method

Caries clinical examination method:

- Visual-tactile examination
- Radiograph
- Others (describe) _____

Caries recording system:

- dmft/s*
- ICDAS
- Others (describe) _____

Types of prenatal oral care

- Visual-tactile examination
- Cleaning
- Oral health education
- Others (describe) _____

Who delivered prenatal oral care?

- Dentist
- Hygienist
- Social worker
- OB doctor
- Primary health care physician
- Midwife
- Others (describe) _____

Part IV: Any oral sample collected? If yes, proceed with the following:

Sample source (If applicable):

- Saliva: Non-stimulated Stimulated Didn't specify
- Plaque: Supragingival Subgingival mixed Sound surface Carious lesion
- Swab
- others (describe) _____

Bacteria isolation and identification method:

- Culture (Describe type of plate agar) _____
- PCR
- others (describe) _____

Examined bacteria type:

- S. mutans* *Lactobacillus* others (describe) _____

Part V: Results

- Improved oral health knowledge: Yes No
- Improved oral health during pregnancy: Yes No
- Reduced dental caries in children: Yes No
- Reduced *Streptococcus mutans* carriage Yes No

Part VI: Statistical analysis results (if applicable)

- Statistical analysis type: _____

Author's conclusion:

Reviewer's comments:

Appendix 3: Excluded articles after full-text review

1. Kanellis MJ, Logan HL, Jakobsen J. Changes in maternal attitudes toward baby bottle tooth decay. *Pediatric dentistry*. 1997;19(1):56-60.
2. Lydon-Rochelle MT, Krakowiak P, Hujoel PP, Peters RM. Dental care use and self-reported dental problems in relation to pregnancy. *American Journal of Public Health*. 2004;94(5):765-71.
3. Lopez NJ, Da Silva I, Ipinza J, Gutierrez J. Periodontal therapy reduces the rate of preterm low birth weight in women with pregnancy-associated gingivitis. *Journal of periodontology*. 2005;76(11 Suppl):2144-53.
4. Castaldi JL, Bertin MS, Gimenez F, Lede R. Periodontal disease: Is it a risk factor for premature labor, low birth weight or preeclampsia? *Revista Panamericana De Salud Publica-Pan American Journal of Public Health*. 2006;19(4):253-8.
5. Sadatmansouri S, Sedighpoor N, Aghaloo M. Effects of periodontal treatment phase I on birth term and birth weight. *Journal of Indian Society of Pedodontics and Preventive Dentistry*. 2006;24(1):23-6.
6. Lopez R. Periodontal treatment in pregnant women improves periodontal disease but does not alter rates of preterm birth. *Evidence-based dentistry*. 2007;8(2):38.
7. Tarannum F, Faizuddin M. Effect of periodontal therapy on pregnancy outcome in women affected by periodontitis. *Journal of periodontology*. 2007;78(11):2095-103.
8. Lopez R. Periodontal treatment during pregnancy did not reduce the occurrence of poor pregnancy outcomes. *Evidence-based dentistry*. 2009;10(4):105.
9. Lucey SM. Oral health promotion initiated during pregnancy successful in reducing early childhood caries. *Evidence-based dentistry*. 2009;10(4):100-1.
10. Newnham JP, Newnham IA, Ball CM, Wright M, Pennell CE, Swain J, et al. Treatment of periodontal disease during pregnancy: a randomized controlled trial. *Obstetrics and gynecology*. 2009;114(6):1239-48.
11. Novak T, Radnai M, Gorzo I, Urban E, Orvos H, Eller J, et al. Prevention of preterm delivery with periodontal treatment. *Fetal diagnosis and therapy*. 2009;25(2):230-3.
12. Offenbacher S, Beck JD, Jared HL, Mauriello SM, Mendoza LC, Couper DJ, et al. Effects of periodontal therapy on rate of preterm delivery: a randomized controlled trial. *Obstetrics and gynecology*. 2009;114(3):551-9.
13. Pare E, Macones G, Srinivas S, Jeffcoat M, Appleby D, Sammel M, et al. Periodontal disease in pregnancy: Does it affect neonatal outcome? *American Journal of Obstetrics and Gynecology*. 2009;201(6):S83-S4.
14. Wandera MN, Engebretsen IM, Rwenyonyi CM, Tumwine J, Åstrøm AN. Periodontal status, tooth loss and self-reported periodontal problems effects on oral impacts on daily performances, OIDP, in pregnant women in Uganda: A cross-sectional study. *Health and Quality of Life Outcomes*. 2009;7.
15. Preterm births not reduced by periodontal treatment. *Journal of the National Medical Association*. 2010;102(3):259-60.
16. Cruz SS, Costa Mda C, Gomes-Filho IS, Barreto ML, dos Santos CA, Martins AG, et al. Periodontal therapy for pregnant women and cases of low birthweight: an intervention study. *Pediatrics international : official journal of the Japan Pediatric Society*. 2010;52(1):57-64.
17. Gomes-Filho IS, Cruz SS, Da Conceicao NCM, Passos JS, Cerqueira EMM, Sampaio FP, et al. Periodontal therapy and low birth weight: Preliminary results from an alternative methodologic strategy. *Journal of periodontology*. 2010;81(12):1725-33.
18. Macones GA, Parry S, Nelson DB, Strauss JF, Ludmir J, Cohen AW, et al. Treatment of localized periodontal disease in pregnancy does not reduce the occurrence of preterm birth: results from the Periodontal Infections and Prematurity Study (PIPS). *American Journal of Obstetrics and Gynecology*. 2010;202(2):147.e1-.e8.
19. Meyer K, Geurtsen W, Gunay H. An early oral health care program starting during pregnancy: results of a prospective clinical long-term study. *Clinical oral investigations*. 2010;14(3):257-64.

20. Niederman R. Periodontal treatment did not prevent complications of pregnancy. Evidence-based dentistry. 2010;11(1):18-9.
21. Hart R, Doherty DA, Newnham IA, Pennell CE, Newnham JP. Periodontal disease ñ a further potentially modifiable risk factor limiting conception ñ a case for a pre-pregnancy dental check-up? Human Reproduction. 2011;26:i70.
22. Jeffcoat M, Parry S, Gerlach RW, Doyle MJ. Use of alcohol-free antimicrobial mouth rinse is associated with decreased incidence of preterm birth in a high-risk population. Am J Obstet Gynecol. 2011;205(4):382.e1-6.
23. Jeffcoat M, Parry S, Sammel M, Clothier B, Catlin A, Macones G. Periodontal infection and preterm birth: successful periodontal therapy reduces the risk of preterm birth. BJOG : an international journal of obstetrics and gynaecology. 2011;118(2):250-6.
24. Sant'Ana AC, Campos MR, Passanezi SC, Rezende ML, Gregghi SL, Passanezi E. Periodontal treatment during pregnancy decreases the rate of adverse pregnancy outcome: a controlled clinical trial. Journal of applied oral science : revista FOB. 2011;19(2):130-6.
25. Clifford H, Johnson NW, Brown C, Battistutta D. When can oral health education begin? Relative effectiveness of three oral health education strategies starting pre-partum. Community dental health. 2012;29(2):162-7.
26. Plutzer K, Spencer AJ, Keirse MJ. How first-time mothers perceive and deal with teething symptoms: a randomized controlled trial. Child: care, health and development. 2012;38(2):292-9.
27. Reisine S, Douglass J, Aseltine R, Shanley E, Thompson C, Thibodeau E. Prenatal nutrition intervention to reduce mutans streptococci among low-income women. Journal of public health dentistry. 2012;72(1):75-81.
28. Arrow P, Raheb J, Miller M. Brief oral health promotion intervention among parents of young children to reduce early childhood dental decay. BMC public health. 2013;13:245.
29. Milgrom P, Riedy CA, Weinstein P, Mancl LA, Garson G, Huebner CE, et al. Design of a community-based intergenerational oral health study: "Baby Smiles". BMC oral health. 2013;13:38.
30. Weidlich P, Moreira CH, Fiorini T, Musskopf ML, da Rocha JM, Oppermann ML, et al. Effect of nonsurgical periodontal therapy and strict plaque control on preterm/low birth weight: a randomized controlled clinical trial. Clinical oral investigations. 2013;17(1):37-44.
31. Kopycka-Kedzierawski DT. Maternal Salivary Bacterial Challenge is Associated With Oral Infection Among Children and Predicts Early Childhood Caries (ECC) Incidence in a High-risk Cohort of 36-month-old Children. Journal of Evidence-Based Dental Practice. 2014;14(3):147-8.
32. Meyer K, Khorshidi-Boehm M, Geurtsen W, Guenay H. An early oral health care program starting during pregnancy-a long-term study-phase V. Clinical oral investigations. 2014;18(3):863-72.
33. Mohebbi SZ, Yazdani R, Sargeran K, Tartar Z, Janeshin A. Midwifery students training in oral care of pregnant patients: an interventional study. Journal of dentistry (Tehran, Iran). 2014;11(5):587-95.
34. Jiang H, Xiong X, Buekens P, Su Y, Qian X. Use of mouth rinse during pregnancy to improve birth and neonatal outcomes: a randomized controlled trial. BMC pregnancy and childbirth. 2015;15:311.
35. Johnson M, George A, Dahlen H, Ajwani S, Bhole S, Blinkhorn A, et al. The midwifery initiated oral health-dental service protocol: an intervention to improve oral health outcomes for pregnant women. BMC oral health. 2015;15:2.
36. Jiang H, Xiong X, Su Y, Peng J, Zhu X, Wang J, et al. Use of antiseptic mouthrinse during pregnancy and pregnancy outcomes: a randomised controlled clinical trial in rural China. BJOG : an international journal of obstetrics and gynaecology. 2016;123 Suppl 3:39-47.
37. Al Khamis S, Asimakopoulou K, Newton T, Daly B. The effect of dental health education on pregnant women's adherence with toothbrushing and flossing - A randomized control trial. Community dentistry and oral epidemiology. 2017;45(5):469-77.

38. Vilella KD, Fraiz FC, Benelli EM, Assuncao LR. Oral Health Literacy and Retention of Health Information Among Pregnant Women: A Randomised Controlled Trial. *Oral health & preventive dentistry*. 2017;15(1):41-8.
39. George A, Dahlen HG, Blinkhorn A, Ajwani S, Bhole S, Ellis S, et al. Evaluation of a midwifery initiated oral health-dental service program to improve oral health and birth outcomes for pregnant women: A multi-centre randomised controlled trial. *International journal of nursing studies*. 2018;82:49-57