## **Appendix 1**

Search date 2022.5.30-6.1

### PubMed 265

(((((((Meconium aspiration syndrome[Mesh]) OR (Meconium aspiration syndrome[Title/Abstract]) OR (Meconium aspiration syndrome[Title/Abstract])) OR (Aspiration Syndrome, Meconium[Title/Abstract])) OR (Syndrome, Meconium Aspiration[Title/Abstract])) OR (Aspiration, Meconium[Title/Abstract])) OR (Meconium Inhalation[Title/Abstract])) OR (Meconium Aspiration[Title/Abstract])) OR (Aspiration, Meconium[Title/Abstract])) OR (Meconium Inhalation[Title/Abstract])) AND (((((((("Infant, Newborn"[Mesh]) OR (Infant, Newborn"[Title/Abstract])) OR (Newborn Infants[Title/Abstract])) OR (Newborn Infants[Title/Abstract])) OR (Newborns[Title/Abstract])) OR (Newborn[Title/Abstract])) OR (Neonate[Title/Abstract])) OR (Neonates[Title/Abstract])) OR (Infants[Title/Abstract])) OR (Infants[Title/Abstract])) OR (Neonates[Title/Abstract])) OR (Infants[Title/Abstract])) OR (Social Risk Factors"[Mesh]) OR (Risk Factors[Title/Abstract])) OR (Infants[Title/Abstract])) OR (Social Risk Factors"[Mesh]) OR (Risk Factors, Social Risk[Title/Abstract])) OR (Social Risk Factors[Title/Abstract])) OR (Factor, Social Risk[Title/Abstract])) OR (Risk Factors, Social Risk[Title/Abstract])) OR (Social Risk Factors, Social Risk[Title/Abstract])) OR (Social Risk Factors, Social Risk[Title/Abstract])) OR (Social Risk Factors, Social Risk[Title/Abstract])) OR (Correlates, Health[Title/Abstract])) OR (Population at Risk[Title/Abstract])) OR (Risk Factor Scores[Title/Abstract])) OR (Risk Scores[Title/Abstract])) OR (Risk Scores[Title/Abstract])) OR (Score, Risk[Title/Abstract])) OR (Risk Factor Scores[Title/Abstract])) OR (Score, Risk Factor[Title/Abstract])) OR (Score, Risk Factor[Title/Abstract])) OR (Risk Factor Scores[Title/Abstract])) OR (Score, Risk Factor[Title/Abstract])) OR (Risk Factor Scores[Title/Abstract])) OR (Score, Risk Factor[Title/Abst

#### EMBASE.com 419

(('Meconium aspiration syndrome'/exp) OR ('Meconium aspiration syndrome':ti,ab,kw) OR ('Aspiration Syndrome, Meconium':ti,ab,kw) OR ('Meconium Aspiration':ti,ab,kw) OR ('Aspiration Meconium':ti,ab,kw) OR ('Meconium Inhalation':ti,ab,kw) OR ('Infants, Newborn':ti,ab,kw) OR ('Newborn':ti,ab,kw) OR ('Infants':ti,ab,kw) OR ('Infants':ti,ab,kw) OR ('Infants':ti,ab,kw) OR ('Infants':ti,ab,kw) OR ('Infant':ti,ab,kw) OR ('Newborn':ti,ab,kw) OR ('Newborn':ti,ab,kw) OR ('Neonate':ti,ab,kw) OR ('Infant':ti,ab,kw) OR ('Infants':ti,ab,kw) OR ('Infant':ti,ab,kw) OR

#### WOB 577

http://www.webofscience.com/wos/alldb/summary/eadaf559-9e5e-462a-878c-225c63f41115-3b65c535/relevance/1 ((((TS=(Meconium aspiration syndrome)) OR TS=(Aspiration Syndrome, Meconium)) OR TS=(Syndrome, Meconium Aspiration)) OR TS=(Meconium Aspiration)) OR TS=(Aspiration, Meconium)) OR TS=(Meconium Inhalation) AND ((((((TS=(Infant, Newborn)) OR TS=(Infant)) OR TS=(Infants, Newborn)) OR TS=(Newborn Infant)) OR TS=(Newborn)) OR TS=(Newborns)) OR TS=(Newborn)) OR TS=(Neonate)) OR TS=(Neonates)) OR TS=(Infants)

AND

### Ovid medline 265

Ovid MEDLINE(R) ALL <1946 to May 27, 2022>

exp Meconium aspiration syndrome/ OR Meconium aspiration syndrome.mp OR Aspiration Syndrome, Meconium.mp OR Syndrome, Meconium Aspiration.mp OR Meconium Aspiration.mp OR Aspiration, Meconium.mp OR Meconium Inhalation.mp 2013 AND exp Infant, Newborn/ OR exp Infant/ OR Infant, Newborn.mp OR Infants, Newborn.mp OR Newborn Infant.mp OR Newborn Infants. mp OR Newborns.mp OR Newborn.mp OR Neonate.mp OR Neonates.mp OR Infant.mp OR Infants.mp AND exp Risk Factors/ OR Risk Factors.mp OR Factor, Risk.mp OR Risk Factor.mp OR Social Risk Factors.mp OR Factor, Social Risk.mp OR Factors, Social Risk.mp OR Risk Factor, Social.mp OR Risk Factors, Social.mp OR Social Risk Factor.mp OR Health Correlates.mp OR Correlates, Health.mp OR Population at Risk.mp OR Populations at Risk.mp OR Risk Scores.mp OR Risk Score.mp OR Score, Risk. mp OR Risk Factor Scores.mp OR Risk Factor Score.mp OR Score, Risk Factor.mp 1312081

## Scopus 515

(TITLE-ABS-KEY ("Meconium aspiration syndrome" OR "Meconium aspiration syndrome" OR "Meconium aspiration syndrome" OR "Aspiration Syndrome, Meconium" OR "Syndrome, Meconium Aspiration" OR "Meconium Aspiration" OR "Aspiration, Meconium" OR "Meconium Inhalation") AND TITLE-ABS-KEY ("Newborn" OR "Infant" OR "Infant, Newborn" OR "Infants, Newborn" OR "Newborn Infants" OR "Newborn Infants" OR "Newborns" OR "Newborn" OR "Newborn" OR "Neonate" OR "Neonates" OR "Infant" OR "Infant" OR "Infants, Newborn" OR "Infants") AND TITLE-ABS-KEY ("Risk Factors" OR "Risk Factors, Social Risk Factors" OR "Risk Factor, Social" OR "Risk Factors, Social Risk Factor" OR "Risk Factor") OR "Risk Factor" OR "Risk Factor" OR "Risk Factor" OR "Risk Factor") OR "Risk Factor" OR "Risk Factor") OR "Risk Factor") OR "Risk Factor" OR "Risk Factor") OR "Risk Factor") OR "Risk Factor" OR "Risk Factor") OR "Risk Facto

Cochrane 46

Search Name: Date Run: 01/06/2022 01:41:22

Comment:

ID Search Hits

- #1 MeSH descriptor: [Meconium Aspiration Syndrome] this term only 105
- #2 (Meconium Aspiration Syndrome):ti,ab,kw OR (Meconium Inhalation):ti,ab,kw OR (Meconium Aspiration):ti,ab,kw OR (Aspiration, Meconium):ti,ab,kw OR (Aspiration Syndrome, Meconium):ti,ab,kw 311
- #3 (Syndrome, Meconium Aspiration):ti,ab,kw 256
- #4 {OR #1, #2, #3} 311
- #5 MeSH descriptor: [Infant, Newborn] explode all trees 17497

#6 (Infants, Newborn):ti,ab,kw OR (Newborns):ti,ab,kw OR (Newborn):ti,ab,kw OR (Newborn Infants):ti,ab,kw 33140

#7 (Newborn Infant):ti,ab,kw OR (Neonate):ti,ab,kw 23111

- #8 {OR #5, #6, #7} 33803
- #9 MeSH descriptor: [Risk Factors] explode all trees 26247

#10(Populations at Risk):ti,ab,kw OR (Population at Risk):ti,ab,kw OR (Correlates, Health):ti,ab,kw OR (Health Correlates):ti,ab,kw OR(Risk Factor):ti,ab,kw86352

#11(Factor, Risk):ti,ab,kw OR (Risk Factors, Social):ti,ab,kw OR (Social Risk Factor):ti,ab,kw OR (Risk Factor, Social):ti,ab,kw OR(Factors, Social Risk):ti,ab,kw50942

#12 (Factor, Social Risk):ti,ab,kw OR (Social Risk Factor):ti,ab,kw OR (Risk Factor Score):ti,ab,kw OR (Risk Fact

#13 (Risk Scores):ti,ab,kw OR (Score, Risk Factor):ti,ab,kw OR (Score, Risk):ti,ab,kw 43540

#14 {OR #9, #10, #11, #12, #13} 131016

#15 {AND #4, #8, #14} 46

# Table S1 Summary of excluded fully read studies

| Authors                            | Title  | Year                                  | Journal   |
|------------------------------------|--|---------------------------------------|---|
| Choi W., <i>et al.</i>             | Risk factors differentiating mild/moderate from severe meconium aspiration syndrome in meconium-stained  | 2015                                  | Obstetrics & Gynecology Science                                     |
|                                    | neonates   |                                       |   |
| Kalra V. K., <i>et al.</i>         | Change in neonatal resuscitation guidelines and trends in incidence of meconium aspiration syndrome in   | 2020                                  | Journal of Perinatology   |
|                                    | California   |                                       |   |
| Sandal G, <i>et al.</i>            | The admission rate in neonatal intensive care units of newborns born to adolescent mothers   | 2011                                  | Journal of Maternal-Fetal and Neonatal Medicine                     |
| Shah N, <i>et al.</i>              | Comparision of obstetric outcome among teenage and non-teenage mothers from three tertiary care  | 2011                                  | Journal of the Pakistan Medical Association                         |
|                                    | hospitals of Sindh, Pakistan   |                                       |   |
| Wertheimer A, et al.               | The effect of meconium-stained amniotic fluid on perinatal outcome in pregnancies complicated by preterm   | 2020                                  | Archives of Gynecology and Obstetrics                               |
|                                    | premature rupture of membranes   |                                       |   |
| Persson M, <i>et al.</i>           | Maternal Overweight and Obesity and Risks of Severe Birth-Asphyxia-Related Complications in Term Infants:  | 2014                                  | PLoS Medicine   |
|                                    | A Population-Based Conort Study in Sweden  |                                       |   |
| Hofer N, <i>et al.</i>             | Meconium aspiration syndrome - A 21-years' experience from a tertiary care center and analysis of risk   | 2013                                  | Klinische Padiatrie   |
|                                    |  |                                       |   |
| Lin H. C, <i>et al.</i>            | Meconium aspiration syndrome: Experiences in Taiwan  | 2008                                  | Journal of Perinatology   |
| Mohammad N, <i>et al.</i>          | Meconium stained liquor and its neonatal outcome   | 2018                                  | Pakistan Journal of Medical Sciences                                |
| Hiersch L, <i>et al.</i>           | Meconium-Stained Amniotic Fluid and Neonatal Morbidity in Low-Risk Pregnancies at Term: The Effect of  | 2017                                  | American Journal of Perinatology                                    |
|                                    | Gestational Age  |                                       |   |
| Pariente Gali, <i>et al.</i>       | Meconium-stained amniotic fluidrisk factors and immediate perinatal outcomes among SGA infants   | 2015                                  | The Journal of Maternal-fetal & Neonatal Medicine                   |
| Raman Ts Raghu and Jayaprakash D G | Neonatal outcome in meconium stained deliveries - a prospective study  | 1997                                  | Medical Journal, Armed Forces India                                 |
| Shah S C, <i>et al.</i>            | Neonatal outcome of macrosomia   | 2020                                  | Journal of Nepal Paediatric Society                                 |
| lanssen P.A. et al                 | Outcomes of planned home births versus planned hospital births after regulation of midwifery in British  | 2002                                  | CMAI  |
|                                    | Columbia   | 2002                                  |   |
| Malik A S. <i>et al</i>            | Prelabour runture of membranes and neonatal morbidity in level II nursery in Kelantan  | 1994                                  | The Medical journal of Malaysia                                     |
|                                    |  | 1006                                  | Australian and New Zaaland Jawrad of Obstativias and                |
| Orbaniak K 5, <i>et al.</i>        | Hisk factors for meconium-aspiration syndrome  | 1990                                  | Australian and New Zealand Sournal of Obstetrics and<br>Gynaecology |
| Addisu Dagne, et al                | Prevalence of meconium stained amniotic fluid and its associated factors among women who gave birth at   | 2018                                  | BMC pregnancy and childbirth  |
| Addisu Dagrie, et al.              | term in Felege Hiwot comprehensive specialized referral hospital. North West Ethiopia: a facility based cross-                                   | 2018                                  | BINC pregnancy and childbirth                                       |
|                                    | sectional study  |                                       |   |
| Adhikari M, <i>et al.</i>          | Meconium aspiration in South Africa  | 1995                                  | South African Medical Journal                                       |
| Adhikari S <i>et al</i>            | Morbidities and Outcome of a Neopatal Intensive Care in Western Neoal  | 2017                                  | The Journal of the Nenal Health Research Council                    |
|                                    |  | 2017                                  |   |
| Ahi S, et al.                      | Correlation between Maternal Vitamin D and Thyroid Function in Pregnancy with Maternal and Neonatal<br>Outcomes: A Cross-Sectional Study         | 2022                                  | International Journal of Endocrinology                              |
| Arbib N. at al                     | The pro-gentational trial services and high density linearization chalasteral ratio is approxisted with advarge                                  | 2020                                  | International Journal of Oursealogy and Obstatrica                  |
| Arbib N, et al.                    | perinatal outcomes: A retrospective cohort analysis  | 2020                                  | international Journal of Gynecology and Obstetrics                  |
| Palaah K. at al                    | Accessment of Neonatel Respiratory Distance Incidences with Causes, Martality and Marhidity in a Tartiany  | 2020                                  | lournal of Pharmacoutical Passarah International                    |
| Baloch R, et al.                   | Care Hospital  | 2020                                  | Journal of Fharmaceutical Research International                    |
| Baseer Khaled A et al              | Risk Factors of Respiratory Diseases Among Neonates in Neonatal Intensive Care Unit of Open University   | 2020                                  | Annals of Global Health   |
| Susser Milliou A, et al.           | Hospital, Egypt  | 2020                                  | , anas or Global Health   |
| Beaver K M and Wright I P          | Evaluating the effects of birth complications on low self-control in a sample of twins   | 2005                                  | International Journal of Offender Therapy and                       |
| Beaver K in and Wright J P         | Evaluating the enects of birth complications of low sen-control in a sample of twins   | 2005                                  | Comparative Criminology   |
| Bonny BS at al                     | Meconium aspiration - role of obstetric factors and suction  | 1087                                  | Australian and New Zealand Journal of Obstatrics and                |
| Benny F 3, et al.                  |  | 1907                                  | Gynaecology   |
| Biorkman K and Wesstrom J          | Risk for girls can be adversely affected post-term due to underestimation of gestational age by ultrasound in                                    | 2015                                  | Acta Obstetricia et Gynecologica Scandinavica                       |
|                                    | the second trimester   | 2010                                  | nota obototnota or aynocologica obanamavida                         |
| Bogomazova I M. <i>et al.</i>      | Neonatal meconium aspiration: Risk factors and adaptation by the newborns  | 2019                                  | Obstetrics, Gynecology and Reproduction                             |
|                                    | The approximation between placente approximation of the markers and composite adverse delivery   | 2021                                  |   |
| Bowe S, et al.                     | outcome of a likely placental cause in healthy post-date pregnancies   | 2021                                  | Acta Obstetricia el Gynecologica Scandinavica                       |
| Brockleburst P. et al              | Perinatal and maternal outcomes by planned place of birth for healthy women with low risk pregnancies: The                                       | 2012                                  | BM-L (Opline)   |
|                                    | Birthplace in England national prospective cohort study  | 2012                                  |   |
| Caughey A B. et al.                | Neonatal complications of term pregnancy: Bates by gestational age increase in a continuous, not threshold                                       | 2005                                  | American Journal of Obstetrics And Gynecology                       |
|                                    | fashion  | 2000                                  | Amonoan boarnar of obstantias find ayricology                       |
| Cavallin E. <i>et al.</i>          | Bisk factors for mortality among neonates admitted to a special care unit in a low-resource setting  | 2020                                  | BMC Preanancy and Childbirth  |
| Chand Saraan et al                 | Factors Loading To Macanium Appiration Sundrome in Term, and Dest term Nacantae  | 2010                                  |   |
|                                    |  | 2019                                  |   |
| Cheng Yvonne W, et al.             | The association between persistent occiput posterior position and neonatal outcomes  | 2006                                  | Obstetrics and Gynecology   |
| Colvin Z, <i>et al.</i>            | Duration of labor induction in nulliparous women with hypertensive disorders of pregnancy and maternal and                                       | 2020                                  | Journal of Maternal-Fetal and Neonatal Medicine                     |
|                                    | neonatal outcomes  |                                       |   |
| Conway D L, <i>et al.</i>          | Isolated oligohydramnios in the term pregnancy: is it a clinical entity?   | 1998                                  | Journal of Maternal-Fetal and Neonatal Medicine                     |
| Currie J and Rossin-Slater M       | Weathering the storm: hurricanes and birth outcomes  | 2013                                  | Journal of Health Economics   |
| Dargaville P A and Copnell B       | The epidemiology of meconium aspiration syndrome: Incidence, risk factors, therapies, and outcome  | 2006                                  | Pediatrics  |
| Darling E K. <i>et al.</i>         | Distance from Home Birth to Emergency Obstetric Services and Neonatal Outcomes: A Cohort Study   | 2019                                  | Journal of midwifery & women's health                               |
|                                    | Incidence of and factors associated with meconium staining of the ampiotic fluid in a Nigerian Liniversity                                       | 2006                                  | Journal of Obstatrics and Gunaecology                               |
| David A N, et al.                  | Teaching Hospital  | 2000                                  | Journal of Obstetrics and Gynaecology                               |
| De Oliveira C. A. <i>et al</i>     | Hypertensive syndromes during pregnancy and perinatal outcomes   | 2006                                  | Revista Brasileira de Saude Materno Infantil                        |
|                                    | The impact of Neoretel Decuseitation Dreament equivalence on martelity and markidity of neuroper inferte with                                    | 2000                                  |   |
| Duran R, <i>et al.</i>             | perinatal asphyxia   | 2008                                  | Brain & Development   |
| Espishaira M.C. at al              | Maganium appiration sundrame, the experience of a tertiany conter  | 2011                                  | Povisto Portugueso do poumologio                                    |
|                                    |  | 2011                                  |   |
| Fedakar A                          | The incidence and clinical features of meconium aspiration syndrome: A two-year neonatal intensive care  | 2019                                  | European Research Journal   |
|                                    |  | 0010                                  |   |
| Firdaus U, <i>et al.</i>           | Meconium stained amniotic fluid: A clinical study of maternal and neonatal attributes  | 2013                                  | Current Pediatric Research  |
| Fischer C, <i>et al.</i>           | A Population-Based Study of Meconium Aspiration Syndrome in Neonates Born between 37 and 43 Weeks  | 2012                                  | International Journal of Pediatrics                                 |
|                                    |  |                                       |   |
| Gluck O, <i>et al.</i>             | Bloody amniotic fluid during labor - Prevalence, and association with placental abruption, neonatal morbidity,<br>and adverse pregnancy outcomes | 2019                                  | European Journal of Obstetrics & Gynecology and                     |
|                                    |  |                                       |   |
| Gonen N, <i>et al.</i>             | Placental Histopathology and Pregnancy Outcomes in "Early" vs. "Late" Placental Abruption.   | 2021                                  | Reproductive Sciences   |
| Gould J B, <i>et al</i> .          | Cesarean delivery rates and neonatal morbidity in a low-risk population  | 2004                                  | Obstetrics and Gynecology   |
| Gupta P, <i>et al.</i>             | Clinical and biochemical asphyxia in meconium stained deliveries   | 1998                                  | Indian Pediatrics   |
| Gupta R and Cabacungan E T         | Neonatal Birth Trauma: Analysis of Yearly Trends, Risk Factors, and Outcomes   | 2021                                  | Journal of Pediatrics   |
| Gupta S K. <i>et al.</i>           | Meconium aspiration syndrome in infants of HIV-positive women: A case-control study  | 2016                                  | Journal of Perinatal Medicine                                       |
| Gupta V et al                      | Meconium stained amniotic fluid: antenatal intranartum and neonatal attributes   | 1996                                  | Indian Pediatrics   |
|                                    | Drimony opportion position in and devide anti-   | 0015                                  | Roual Madical Invent  |
| Hashim N, <i>et al.</i>            | Primary cesarean section in grandmultiparity   | 2015                                  | Rawal Medical Journal   |
| Hofer N, <i>et al.</i>             | Inflammatory indices in meconium aspiration syndrome   | 2016                                  | Pediatric Pulmonology   |
| Horgan M J, <i>et al.</i>          | The relationship of thrombocytopenia to the onset of persistent pulmonary hypertension of the newborn in   | 1985                                  | New York State Journal of Medicine                                  |
|                                    | the meconium aspiration syndrome   |                                       |   |
| Khazardoost S, <i>et al.</i>       | Risk factors for meconium aspiration in meconium stained amniotic fluid  | 2007                                  | Journal of Obstetrics and Gynaecology                               |
| Kominiarek M, <i>et al.</i>        | Gestational weight gain and obesity: Is 20 pounds too much?  | 2013                                  | American Journal of Obstetrics and Gynecology                       |
| Lewis L, <i>et al.</i>             | Obstetric and neonatal outcomes for women intending to use immersion in water for labour and birth in  | 2018                                  | Australian and New Zealand Journal of Obstetrics and                |
|                                    | Western Australia (2015-2016): A retrospective audit of clinical outcomes  |                                       | Gynaecology   |
| Oddie S J                          | Perspective on meconium staining of the amniotic fluid   | 2010                                  | Archives of Disease in Childhood: Fetal and Neonatal                |
|                                    |  |                                       | Edition   |
| Paz Y, et al.                      | Variables associated with meconium aspiration syndrome in labors with thick meconium   | 2001                                  | European Journal of Obstetrics and Gynecology and                   |
|                                    |  |                                       | Reproductive Biology  |
| Perlman J N                        | Maternal fever and neonatal depression: Preliminary observations   | 1999                                  | Clinical Pediatrics   |
| Pourcyrous M, <i>et al.</i>        | Significance of serial C-reactive protein responses in neonatal infection and other disorders  | 1993                                  | Pediatrics  |
| Qian L. et al.                     | Current status of neonatal acute respiratory disorders: A one-year prospective survey from a Chiposo   | 2010                                  | Chinese Medical Journal   |
| · · · <b>, - · ··</b> ·            | neonatal network   |                                       |   |
| Sandstrom A. et al.                | Durations of second stage of labor and pushing, and adverse neonatal outcomes: a population-based cohort   | 2017                                  | Journal of Perinatology   |
|                                    | study  |                                       |   |
| Saunders K                         | Should we worry about meconium? A controlled study of neonatal outcome   | 2002                                  | Tropical Doctor   |
| Schneiderman M and Balavla J       | A comparative study of neonatal outcomes in placenta previa versus cesarean for other indication at term   | 2013                                  | Journal of Maternal-Fetal and Neonatal Medicine                     |
| Shishayan MK at al                 | The according of heir coloring during programmy with an analysis of a sector of the individual terms   | 2004                                  |   |
| Shishavan ivi K, et al.            | me association of nair coloring during pregnancy with pregnancy and neonatal outcomes: A cross-sectional study                                   | 2021                                  | memanonal Journal or Women's Health and<br>Reproduction Sciences    |
| Shreetha M. at al                  | Profile of asphyviated babies at Tribhuwan University Teaching Usersite  | 2000                                  | Journal of Nanal Pandiatria Sociation                               |
|                                    |  | 2009                                  |   |
| Smid Marcela C, <i>et al.</i>      | Maternal Super Obesity and Neonatal Morbidity after Term Cesarean Delivery   | 2016                                  | American Journal of Perinatology                                    |
| Spain, J. E, <i>et al.</i>         | Risk factors for serious morbidity in term nonanomalous neonates   | 2015                                  | American Journal of Obstetrics and Gynecology                       |
| Swain P K and Thapalial A          | Meconium stained amniotic fluid - A potential predictor of Meconium Aspiration Syndrome  | 2008                                  | Journal of Nepal Paediatric Society                                 |
| Tay, S. K.                         | Spurious labor: A high risk factor for dysfunctional labor and fetal distress  | 1991                                  | International Journal of Gynecology and Obstetrics                  |
| Thornton Patrick D. et al          | Meconium aspiration syndrome: Incidence and outcomes using discharge data  | 2019                                  | Early Human Development   |
| Tuuli Methodius C. et al           | Limbilical Cord Arterial Lactate Compared With pH for Prodicting Noopatal Morhidity at Torm  | 2014                                  | Obstetrics and Gynecology   |
|                                    |  | · · · · · · · · · · · · · · · · · · · |   |

| Author, year            | Is the case<br>definition adequate | Representativeness of the cases | Selection of<br>Controls | Definition of<br>Controls | Comparability of cases and controls on the basis of the design or analysis | Ascertainment<br>of exposure | Same method of ascertainment for cases and controls | Non-Response<br>rate | Total |
|-------------------------|------------------------------------|---------------------------------|--------------------------|---------------------------|--|------------------------------|---|----------------------|-------|
| Alchalabi 1999 (9)      |                                    |                                 |                          | *                         | *  | *                            | *   | *                    | 5     |
| Amitai Komem 2022 (4)   |                                    | *                               |                          | *                         | **   | *                            | *   | *                    | 7     |
| Avula 2017 (5)          |                                    | *                               |                          | *                         | *  | *                            | *   | *                    | 6     |
| Bhat 2008 (6)           |                                    | *                               |                          | *                         | *  | *                            | *   | *                    | 6     |
| Gad 2020 (7)            |                                    |                                 |                          | *                         | **   | *                            | *   | *                    | 6     |
| Gurubacharya 2015 (10)  |                                    | *                               |                          | *                         | *  | *                            | *   | *                    | 6     |
| Lee 2016 (43)           |                                    | *                               |                          | *                         | *  | *                            | *   | *                    | 6     |
| Liu 2002 (8)            |                                    | *                               |                          | *                         | *  | *                            | *   | *                    | 6     |
| Mehar 2016 (21)         |                                    |                                 |                          | *                         | *  | *                            | *   | *                    | 5     |
| Meydanli 2001 (11)      |                                    |                                 |                          | *                         | *  | *                            | *   | *                    | 5     |
| Oliveira 2019 (12)      |                                    | *                               |                          | *                         | *  | *                            | *   | *                    | 6     |
| Paudel 2020 (16)        |                                    | *                               |                          | *                         | **   | *                            | *   | *                    | 7     |
| Rossi 1989 (13)         |                                    |                                 |                          | *                         | *  | *                            | *   | *                    | 5     |
| Usta 1995 (14)          |                                    |                                 |                          | *                         | *  | *                            | *   | *                    | 5     |
| Vivian-Taylor 2011 (18) | *                                  | *                               | *                        | *                         | **   | *                            | *   | *                    | 9     |
| Yoder 2002 (15)         |                                    | *                               |                          | *                         | *  | *                            | *   | *                    | 6     |
| Yokoi 2021 (22)         |                                    | *                               |                          | *                         | **   | *                            | *   | *                    | 7     |

| Author, y                      | Representativeness of the exposed cohort | Selection of the non-<br>exposed cohort | Ascertainment of exposure | Demonstration that outcome of interest<br>was not present at start of study | Comparability of cohorts on the basis of the design or analysis | Assessment of outcome | Was follow-up long enough<br>for outcomes to occur | Adequacy of<br>follow-up of cohorts | Total |
|--------------------------------|--|---|---------------------------|---|---|-----------------------|--|-------------------------------------|-------|
| Andersson 2022 (40)            | *  | *                                       | *                         | *   | **  | *                     | *  | *                                   | 9     |
| Ashwal 2014 (27)               | *  | *                                       | *                         | *   | *   | *                     | *  | *                                   | 8     |
| Ashwal 2018 (23)               | *  | *                                       | *                         | *   | *   | *                     | *  | *                                   | 8     |
| Ashwal 2022 (28)               | *  | *                                       | *                         | *   | **  | *                     | *  | *                                   | 9     |
| Bailey 2021 (29)               | *  | *                                       | *                         | *   | **  | *                     | *  | *                                   | 9     |
| Blankenship 2020 (30)          | *  | *                                       | *                         | *   | ×   | *                     | *  | *                                   | 8     |
| Blomberg 2014 (41)             | *  | *                                       | *                         | *   | **  | *                     | *  | *                                   | 9     |
| Cassidy 1985 (31)              | *  | *                                       | *                         | *   | *   | *                     | *  | *                                   | 8     |
| Cedergren 2004 (42)            | *  | *                                       | *                         | *   | **  | *                     | *  | *                                   | 9     |
| Cedergren 2006 (43)            | *  | *                                       | *                         | *   | **  | *                     | *  | *                                   | 9     |
| Cederholm 2005 (44)            | *  | *                                       | *                         | *   | **  | *                     | *  | *                                   | 9     |
| Cheng 2012 (45)                | *  | *                                       | *                         | *   | **  | *                     | *  | *                                   | 9     |
| Chiruvolu 2018 (37)            | *  | *                                       | *                         | *   | **  | *                     | *  | *                                   | 9     |
| Clausson 1999 (46)             | ×  | *                                       | *                         | *   | ×   | *                     | *  | *                                   | 8     |
| De los Santos-Garate 2011 (17) | ×  | *                                       | *                         | *   | **  | *                     | *  | *                                   | 9     |
| Ding 2021 (1)                  | ×  | *                                       | *                         | *   | **  | *                     | *  | *                                   | 9     |
| Greenwood 2003 (32)            | ×  | *                                       | *                         | *   | ×   | *                     | *  | *                                   | 8     |
| Flemming 2020 (47)             |  | *                                       | *                         | *   | ×   | *                     | *  | *                                   | 7     |
| Johnson 2005 (48)              | *  | *                                       | *                         | *   | **  | *                     | *  | *                                   | 9     |
| King 2012 (38)                 | *  | *                                       | *                         | *   | **  | *                     | *  | *                                   | 9     |
| Knight 2017 (49)               | *  | *                                       | *                         | *   | **  | *                     | *  | *                                   | 9     |
| Kortekaas 2020 (50)            | *  | *                                       | ×                         | *   | **  | *                     | *  | *                                   | 9     |
| Levin 2020 (39)                | *  | *                                       | ×                         | *   | *   | *                     | *  | *                                   | 8     |
| Li 2019 (51)                   | *  | *                                       | *                         | *   | **  | *                     | *  | *                                   | 9     |
| Lindegren 2017 (52)            | *  | *                                       | *                         | *   | **  | *                     | *  | *                                   | 9     |
| Lindegren 2020 (20)            | *  | *                                       | *                         | *   | **  | *                     | *  | *                                   | 9     |
| Narchi 2010 (33)               | *  | *                                       | *                         | *   | **  | *                     | *  | *                                   | 9     |
| Persson 2016 (53)              | *  | *                                       | *                         | *   | **  | *                     | *  | *                                   | 9     |
| Petrova 2001 (54)              | *  | *                                       | *                         | *   | **  | *                     | *  | *                                   | 9     |
| Polnaszek 2018 (19)            | *  | *                                       | *                         | *   | **  | *                     | *  | *                                   | 9     |
| Pyykonen 2018 (55)             | *  | *                                       | *                         | *   | **  | *                     | *  | *                                   | 9     |
| Rietveld 2015 (56)             | *  | *                                       | *                         | *   | **  | *                     | *  | *                                   | 9     |
| Roos 2011 (57)                 | *  | *                                       | *                         | *   | **  | *                     | *  | *                                   | 9     |
| Salihu 2011 (58)               | *  | *                                       | *                         | *   | **  | *                     | *  | *                                   | 9     |
| Stotland 2006 (34)             | *  | *                                       | *                         | *   | **  | *                     | *  | *                                   | 9     |
| Tyrberg 2013 (59)              | *  | *                                       | *                         | *   | **  | *                     | *  | *                                   | 9     |
| Usher 1988 (35)                | *  | *                                       | *                         | *   | **  | *                     | *  | *                                   | 9     |
| Ward 2022 (36)                 | *  | *                                       | *                         | *   | **  | *                     | *  | *                                   | 9     |

# Table S3 Results of the risk of bias assessment of cohort studies using the Newcastle - Ottawa quality assessment scale assessment tool

| Study or Subgroup                 | log[Odds Ratio]                 | SE        | BMI≽30 kg/m <sup>2</sup><br>Total            | BMI<30 kg/m <sup>2</sup><br>Total | Weight | Odds Ratio<br>IV, Random, 95% Cl | Odd:<br>IV, Rand       | s Ratio<br>om, 95% Cl |     |
|-----------------------------------|---------------------------------|-----------|--|-----------------------------------|--------|----------------------------------|------------------------|-----------------------|-----|
| Amitai 2021                       | 0.5291                          | 0.2323    | 3327   | 8529                              | 15.8%  | 1.70 [1.08, 2.68]                |                        |                       |     |
| Cedergren 2004 (1)                | 1.0473                          | 0.2946    | 3386   | 526038                            | 13.8%  | 2.85 [1.60, 5.08]                |                        |                       |     |
| Cedergren 2004 (2)                | 1.0543                          | 0.1521    | 12402  | 526038                            | 18.2%  | 2.87 [2.13, 3.87]                |                        | -                     |     |
| Narchi 2010                       | 1.9601                          | 0.5577    | 804  | 4859                              | 7.4%   | 7.10 [2.38, 21.18]               |                        |                       |     |
| Oliveira 2019                     | 0.1398                          | 0.1398    | 37   | 50                                | 18.5%  | 1.15 [0.87, 1.51]                |                        | +                     |     |
| Polnaszek 2018                    | 0.5481                          | 0.5489    | 11   | 5                                 | 7.6%   | 1.73 [0.59, 5.07]                | -                      | +                     |     |
| Salihu 2011                       | 0.3507                          | 0.1349    | 26954  | 90022                             | 18.7%  | 1.42 [1.09, 1.85]                |                        | -                     |     |
| Total (95% CI)                    |                                 |           | 46921  | 1155541                           | 100.0% | 2.01 [1.39, 2.92]                |                        | •                     |     |
| Heterogeneity: Tau <sup>2</sup> = | 0.18; Chi <sup>2</sup> = 31.04, | df = 6 (F | P < 0.0001); I <sup>2</sup> = 8 <sup>4</sup> | 1%                                |        |                                  | 0.002 0.1              | 1 10                  | 500 |
| Test for overall effect: 2        | Z = 3.67 (P = 0.000             | 12)       |  |                                   |        |                                  | Favours [experimental] | Favours [control]     | 500 |
| Footnotes<br>(1) RMI > 40         |                                 |           |  |                                   |        |                                  |                        |                       |     |

(1) BMI > 40 (2) BMI 35.1-40

**Figure S1** Forest Plot for maternal body mass index (BMI)  $\geq$ 30 kg/m<sup>2</sup>.

|                                   |                                | ;           | >34 years    | Control |        | Odds Ratio         | Odds                   | Ratio             |     |
|-----------------------------------|--------------------------------|-------------|--------------|---------|--------|--------------------|------------------------|-------------------|-----|
| Study or Subgroup                 | log[Odds Ratio]                | SE          | Total        | Total   | Weight | IV, Random, 95% CI | IV, Rando              | m, 95% CI         |     |
| 2.1.1 Analyzed group              |                                |             |              |         |        |                    |                        |                   |     |
| Blomberg 2014 (1)                 | 0.392                          | 0.0903      | 63163        | 300822  | 27.2%  | 1.48 [1.24, 1.77]  |                        | +                 |     |
| Blomberg 2014 (2)                 | 0.5988                         | 0.1796      | 10634        | 300822  | 18.9%  | 1.82 [1.28, 2.59]  |                        | -                 |     |
| Kortekaas 2020 (3)                | 0.1135                         | 0.0528      | 286717       | 1321366 | 30.2%  | 1.12 [1.01, 1.24]  |                        | •                 |     |
| Kortekaas 2020 (4)                | 0.5254                         | 0.1263      | 40909        | 1321366 | 23.8%  | 1.69 [1.32, 2.17]  |                        | +                 |     |
| Subtotal (95% CI)                 |                                |             | 401423       | 3244376 | 100.0% | 1.46 [1.15, 1.85]  |                        | ◆                 |     |
| Heterogeneity: Tau <sup>2</sup> = | 0.05; Chi <sup>2</sup> = 17.66 | df = 3 (P   | = 0.0005); I | ²= 83%  |        |                    |                        |                   |     |
| Test for overall effect:          | Z = 3.11 (P = 0.002            | 2)          |              |         |        |                    |                        |                   |     |
|                                   | -                              |             |              |         |        |                    |                        |                   |     |
| 2.1.2 Studies with un             | ivariate effect size           | e for displ | ay           |         |        |                    |                        |                   |     |
| Gurubacharya 2015                 | 0.207                          | 0.7551      | 25           | 772     | 0.0%   | 1.23 [0.28, 5.40]  |                        |                   |     |
| Subtotal (95% CI)                 |                                |             | 0            | 0       |        | Not estimable      |                        |                   |     |
| Heterogeneity: Not ap             | plicable                       |             |              |         |        |                    |                        |                   |     |
| Test for overall effect:          | Not applicable                 |             |              |         |        |                    |                        |                   |     |
|                                   |                                |             |              |         |        |                    |                        |                   |     |
| Total (95% CI)                    |                                |             | 401423       | 3244376 | 100.0% | 1.46 [1.15, 1.85]  |                        | ◆                 |     |
| Heterogeneity: Tau <sup>2</sup> = | 0.05; Chi <sup>2</sup> = 17.66 | df = 3 (P   | = 0.0005); ( | ²= 83%  |        |                    | t t                    |                   |     |
| Test for overall effect:          | Z = 3.11 (P = 0.002            | 2)          |              |         |        |                    | 0.01 0.1 1             | 10                | 100 |
| Test for subaroup diff            | erences: Not appli             | cable       |              |         |        |                    | Favours [experimental] | Favours [control] |     |
| Footnotes                         |                                |             |              |         |        |                    |                        |                   |     |
| (1) 35-39 years old               |                                |             |              |         |        |                    |                        |                   |     |
| (2) 40+ years old                 |                                |             |              |         |        |                    |                        |                   |     |
| (3) 35-39 years old               |                                |             |              |         |        |                    |                        |                   |     |
| (4) 40+ years old                 |                                |             |              |         |        |                    |                        |                   |     |

Figure S2 Forest Plot for maternal age >34 years old.

|                                   |                                |            | Previous c-delivery          | Control |        | Odds Ratio         | Odds Ratio                                  |
|-----------------------------------|--------------------------------|------------|------------------------------|---------|--------|--------------------|---|
| Study or Subgroup                 | log[Odds Ratio]                | SE         | Total                        | Total   | Weight | IV, Random, 95% CI | IV, Random, 95% Cl                          |
| 3.1.1 Analyzed studie             | es                             |            |                              |         |        |                    |   |
| Amitai 2021                       | 0.6206                         | 0.4634     | 1066                         | 10790   | 3.2%   | 1.86 [0.75, 4.61]  | <u> </u>                                    |
| Andersson 2022                    | 0.2241                         | 0.0845     | 55717                        | 79160   | 96.2%  | 1.25 [1.06, 1.48]  |   |
| Ashwal 2022                       | 1.1086                         | 1.116      | 337                          | 1892    | 0.6%   | 3.03 [0.34, 27.00] |   |
| Subtotal (95% CI)                 |                                |            | 57120                        | 91842   | 100.0% | 1.27 [1.08, 1.50]  | ◆   |
| Heterogeneity: Tau <sup>2</sup> = | 0.00; Chi <sup>2</sup> = 1.32, | df = 2 (P  | = 0.52); I <sup>2</sup> = 0% |         |        |                    |   |
| Test for overall effect:          | Z = 2.92 (P = 0.00             | 4)         |                              |         |        |                    |   |
|                                   |                                |            |                              |         |        |                    |   |
| 3.1.2 Studies with un             | ivariate effect siz            | e for disp | olay                         |         |        |                    |   |
| Lee 2016                          | -1.4271                        | 1.6215     | 15                           | 103     | 0.0%   | 0.24 [0.01, 5.76]  |   |
| Usta 1995                         | 1.1537                         | 0.3457     | 145                          | 767     | 0.0%   | 3.17 [1.61, 6.24]  |   |
| Subtotal (95% CI)                 |                                |            | 0                            | 0       |        | Not estimable      |   |
| Heterogeneity: Not ap             | plicable                       |            |                              |         |        |                    |   |
| Test for overall effect:          | Not applicable                 |            |                              |         |        |                    |   |
|                                   |                                |            |                              |         |        |                    |   |
| Total (95% CI)                    |                                |            | 57120                        | 91842   | 100.0% | 1.27 [1.08, 1.50]  | •   |
| Heterogeneity: Tau <sup>2</sup> = | 0.00; Chi <sup>2</sup> = 1.32, | df = 2 (P  | = 0.52); I <sup>2</sup> = 0% |         |        |                    |   |
| Test for overall effect:          | Z = 2.92 (P = 0.00             | 4)         |                              |         |        |                    | Eavours [experimental] Eavours [control]    |
| Test for subaroup diff            | ferences: Not appli            | icable     |                              |         |        |                    | r avours (experimental) - Pavours (control) |

Figure S3 Forest Plot for previous caesarean delivery.

|                                   |                                |             | Maternal inflammatory response  | Control |        | Odds Ratio         | Odds Ratio                               |
|-----------------------------------|--------------------------------|-------------|---------------------------------|---------|--------|--------------------|--|
| Study or Subgroup                 | log[Odds Ratio]                | SE          | Tota                            | I Total | Weight | IV, Random, 95% CI | IV, Random, 95% Cl                       |
| 4.2.1 Maternal fever              |                                |             |                                 |         |        |                    |  |
| Amitai 2021                       | 0.3577                         | 0.65        | 236                             | 3 11548 | 6.6%   | 1.43 [0.40, 5.11]  |  |
| Ashwal 2018                       | 1.3962                         | 0.866       | 309                             | 3 618   | 0.0%   | 4.04 [0.74, 22.05] |  |
| Oliveira 2019                     | 1.4633                         | 0.7315      | 11                              | 55      | 0.0%   | 4.32 [1.03, 18.12] |  |
| Petrova 2001 (1)                  | 1.0613                         | 0.0801      | 278                             | 3 11452 | 46.2%  | 2.89 [2.47, 3.38]  |  |
| Petrova 2001 (2)                  | 0.5481                         | 0.3278      | 39                              | 3 1074  | 18.8%  | 1.73 [0.91, 3.29]  | + • <u>-</u>                             |
| Subtotal (95% CI)                 |                                |             | 553                             | 3 24074 | 71.6%  | 2.37 [1.57, 3.58]  | ◆  |
| Heterogeneity: Tau <sup>2</sup> = | 0.06; Chi <sup>2</sup> = 3.38, | df = 2 (P = | = 0.18); l <sup>2</sup> = 41%   |         |        |                    |  |
| Test for overall effect:          | Z = 4.08 (P < 0.00             | 01)         |                                 |         |        |                    |  |
|                                   |                                |             |                                 |         |        |                    |  |
| 4.2.2 Chorioamnionti              | s                              |             |                                 |         |        |                    |  |
| Usta 1995                         | 1.0852                         | 0.4159      | 80                              | ) 857   | 0.0%   | 2.96 [1.31, 6.69]  |  |
| Yoder 2002                        | -0.0619                        | 0.3646      | 221                             | 1205    | 0.0%   | 0.94 [0.46, 1.92]  |  |
| Yokoi 2021                        | 0.6043                         | 0.2239      | 602                             | 2 734   | 28.4%  | 1.83 [1.18, 2.84]  |  |
| Subtotal (95% CI)                 |                                |             | 602                             | 2 734   | 28.4%  | 1.83 [1.18, 2.84]  | ◆  |
| Heterogeneity: Not ap             | plicable                       |             |                                 |         |        |                    |  |
| Test for overall effect:          | Z = 2.70 (P = 0.00             | 7)          |                                 |         |        |                    |  |
|                                   |                                |             |                                 |         |        |                    |  |
| Total (95% CI)                    |                                |             | 1155                            | j 24808 | 100.0% | 2.20 [1.55, 3.13]  | •  |
| Heterogeneity: Tau <sup>2</sup> = | 0.06; Chi <sup>2</sup> = 6.50, | df = 3 (P : | = 0.09); I <sup>2</sup> = 54%   |         |        |                    |  |
| Test for overall effect:          | Z = 4.40 (P < 0.00)            | 01)         |                                 |         |        |                    | Equation 1 10 100                        |
| Test for subgroup diff            | erences: Chi² = 0.3            | 70, df = 1  | (P = 0.40), I <sup>2</sup> = 0% |         |        |                    | Favours (experimental) Favours (control) |
| Footnotes                         |                                |             |                                 |         |        |                    |  |
| (1) Term                          |                                |             |                                 |         |        |                    |  |
| (2) Preterm                       |                                |             |                                 |         |        |                    |  |
|                                   |                                |             |                                 |         |        |                    |  |

Figure S4 Forest Plot for maternal inflammatory response.

|   |                            |                     |            | Smoking | Control |        | Odds Ratio         | Odds Ratio                                  |  |
|---|----------------------------|---------------------|------------|---------|---------|--------|--------------------|---|--|
| _ | Study or Subgroup          | log[Odds Ratio]     | SE         | Total   | Total   | Weight | IV, Random, 95% CI | IV, Random, 95% Cl                          |  |
|   | 5.1.1 Analyzed studies     | s                   |            |         |         |        |                    |   |  |
|   | Vivian-Taylor 2011         | 0.3853              | 0.0549     | 139200  | 735665  | 100.0% | 1.47 [1.32, 1.64]  |   |  |
|   | Subtotal (95% CI)          |                     |            | 139200  | 735665  | 100.0% | 1.47 [1.32, 1.64]  | •   |  |
|   | Heterogeneity: Not app     | olicable            |            |         |         |        |                    |   |  |
|   | Test for overall effect: 2 | Z = 7.02 (P < 0.00  | 001)       |         |         |        |                    |   |  |
|   | 5 4 0 00 V                 |                     |            |         |         |        |                    |   |  |
|   | 5.1.2 Studies with unit    | variate effect size | e for disj | play    |         |        |                    |   |  |
|   | Amitai 2021                | 1.5831              | 0.4316     | 204     | 11652   | 0.0%   | 4.87 [2.09, 11.35] |   |  |
|   | Oliveira 2019              | 0.5933              | 0.6564     | 11      | 76      | 0.0%   | 1.81 [0.50, 6.55]  |   |  |
|   | Usta 1995                  | 0.3646              | 0.3328     | 193     | 754     | 0.0%   | 1.44 [0.75, 2.76]  |   |  |
|   | Subtotal (95% CI)          |                     |            | 0       | 0       |        | Not estimable      |   |  |
|   | Heterogeneity: Not app     | olicable            |            |         |         |        |                    |   |  |
|   | Test for overall effect: N | Vot applicable      |            |         |         |        |                    |   |  |
|   |                            |                     |            |         |         |        |                    |   |  |
|   | Total (95% CI)             |                     |            | 139200  | 735665  | 100.0% | 1.47 [1.32, 1.64]  |   |  |
|   | Heterogeneity: Not app     | olicable            |            |         |         |        |                    |   |  |
|   | Test for overall effect: 2 | Z = 7.02 (P < 0.00  | 001)       |         |         |        |                    | Equate [experimental] Equate [control]      |  |
|   | Test for subaroup diffe    | rences: Not appli   | cable      |         |         |        |                    | r avours (experimental) - Pavours (control) |  |

Figure S5 Forest Plot for maternal smoking.

|                                   |                                  |             | Primipara                 | Multipara |        | Odds Ratio         | Odds Ratio                               |    |
|-----------------------------------|----------------------------------|-------------|---------------------------|-----------|--------|--------------------|--|----|
| Study or Subgroup                 | log[Odds Ratio]                  | SE          | Total                     | Total     | Weight | IV, Random, 95% Cl | IV, Random, 95% Cl                       |    |
| 6.1.1 Analyzed studie             | s                                |             |                           |           |        |                    |  |    |
| Amitai 2021                       | 0.3436                           | 0.6428      | 5736                      | 6120      | 0.6%   | 1.41 [0.40, 4.97]  |  |    |
| Vivian-Taylor 2011                | 0.3507                           | 0.049       | 360999                    | 516038    | 99.4%  | 1.42 [1.29, 1.56]  |  |    |
| Subtotal (95% CI)                 |                                  |             | 366735                    | 522158    | 100.0% | 1.42 [1.29, 1.56]  | •  |    |
| Heterogeneity: Tau <sup>2</sup> = | 0.00; Chi <sup>2</sup> = 0.00, ( | df = 1 (P = | : 0.99); l <sup>2</sup> = | 0%        |        |                    |  |    |
| Test for overall effect:          | Z = 7.18 (P < 0.000              | 01)         |                           |           |        |                    |  |    |
| 6.1.2 Studies with un             | ivariate effect size             | e for displ | lay                       |           |        |                    |  |    |
| Gurubacharya 2015                 | 0.131                            | 0.2946      | 480                       | 313       | 0.0%   | 1.14 [0.64, 2.03]  |  |    |
| Lee 2016                          | -0.3425                          | 1.6143      | 95                        | 23        | 0.0%   | 0.71 [0.03, 16.80] |  |    |
| Oliveira 2019                     | 0.5365                           | 0.049       | 61                        | 23        | 0.0%   | 1.71 [1.55, 1.88]  |  |    |
| Yoder 2002                        | 0.0488                           | 0.2688      | 545                       | 881       | 0.0%   | 1.05 (0.62, 1.78)  |  |    |
| Subtotal (95% CI)                 |                                  |             | 0                         | 0         |        | Not estimable      |  |    |
| Heterogeneity: Not ap             | plicable                         |             |                           |           |        |                    |  |    |
| Test for overall effect:          | Not applicable                   |             |                           |           |        |                    |  |    |
| Total (95% CI)                    |                                  |             | 366735                    | 522158    | 100.0% | 1.42 [1.29, 1.56]  | •  |    |
| Heterogeneity: Tau <sup>2</sup> = | 0.00: Chi <sup>2</sup> = 0.00. ( | df = 1 (P = | : 0.99); l <sup>2</sup> = | 0%        |        |                    |  | -  |
| Test for overall effect:          | 7 = 7.18 (P < 0.00)              | 001         | //                        |           |        |                    | 0.01 0.1 1 10 1                          | 00 |
| Test for subaroun diff            | erences: Not annli               | ahle        |                           |           |        |                    | Favours [experimental] Favours [control] |    |
| reactor aupuroup uni              | erences. Nut appli               | abie        |                           |           |        |                    |  |    |

Figure S6 Forest Plot for nulliparous.

|   |  |            | Oligohydramnios      | Control |        | Odds Ratio         | Odds Ratio  |
|---|--|------------|----------------------|---------|--------|--------------------|---|
| Study or Subgroup                                     | log[Odds Ratio]                          | SE         | Total                | Total   | Weight | IV, Random, 95% CI | IV, Random, 95% Cl  |
| 7.1.1 Analyzed studies                                | s  |            |                      |         |        |                    |   |
| Amitai 2021   | 0.8416                                   | 0.5899     | 201                  | 11583   | 44.2%  | 2.32 [0.73, 7.37]  |   |
| Ashwal 2014   | 0.8671                                   | 0.5253     | 987                  | 22280   | 55.8%  | 2.38 [0.85, 6.66]  | +   |
| Subtotal (95% CI)                                     |  |            | 1188                 | 33863   | 100.0% | 2.35 [1.09, 5.08]  |   |
| Heterogeneity: Tau <sup>2</sup> = I                   | 0.00; Chi <sup>2</sup> = 0.00,           | df = 1 (P  | = 0.97); l² = 0%     |         |        |                    |   |
| Test for overall effect: 2                            | Z = 2.18 (P = 0.03)                      | )          |                      |         |        |                    |   |
| 7.1.2 Studies with univ                               | variate effect siz                       | e for disp | olay                 |         |        |                    |   |
| Avula 2017  | 1.0332                                   | 0.5221     | 28                   | 132     | 0.0%   | 2.81 [1.01, 7.82]  |   |
| Cassidy 1985  | 1.1086                                   | 1.6474     | 100                  | 100     | 0.0%   | 3.03 [0.12, 76.51] |   |
| Yoder 2002  | 1.5129                                   | 0.4664     | 38                   | 1388    | 0.0%   | 4.54 [1.82, 11.33] |   |
| Subtotal (95% CI)                                     |  |            | 0                    | 0       |        | Not estimable      |   |
| Heterogeneity: Not app                                | olicable                                 |            |                      |         |        |                    |   |
| Test for overall effect: N                            | Not applicable                           |            |                      |         |        |                    |   |
| Total (95% CI)  | 0.00.058-0.00                            | df - 1 /P  | 1188 - 0.07\:15 - 0% | 33863   | 100.0% | 2.35 [1.09, 5.08]  |   |
| Test for overall effect: 2<br>Test for subgroup diffe | Z = 2.18 (P = 0.03)<br>rences: Not appli | cable      | - 0.57),1 = 0%       |         |        |                    | 0.01 0.1 1 10 100<br>Favours [experimental] Favours [control] |

Figure S7 Forest Plot for oligohydramnios.

|                                   |                                 |             | Induction | No induction |        | Odds Ratio         | Odds Ratio                               |
|-----------------------------------|---------------------------------|-------------|-----------|--------------|--------|--------------------|--|
| Study or Subgroup                 | log[Odds Ratio]                 | SE          | Total     | Total        | Weight | IV, Random, 95% CI | IV, Random, 95% CI                       |
| Amitai 2021                       | 0.3075                          | 0.4008      | 7         | 10956        | 4.1%   | 1.36 [0.62, 2.98]  |  |
| Cheng 2012 (1)                    | -1.204                          | 0.233       | 23963     | 177733       | 8.0%   | 0.30 [0.19, 0.47]  |  |
| Cheng 2012 (2)                    | -0.5621                         | 0.1438      | 30263     | 48518        | 11.3%  | 0.57 [0.43, 0.76]  | -  |
| Cheng 2012 (3)                    | -0.0834                         | 0.3649      | 17379     | 2739         | 4.7%   | 0.92 [0.45, 1.88]  |  |
| Knight 2017 (4)                   | -1.5141                         | 0.4023      | 3715      | 55946        | 4.1%   | 0.22 [0.10, 0.48]  |  |
| Knight 2017 (5)                   | -0.6539                         | 0.202       | 5908      | 28140        | 9.1%   | 0.52 [0.35, 0.77]  |  |
| Knight 2017 (6)                   | -0.5621                         | 0.1936      | 7254      | 6276         | 9.4%   | 0.57 [0.39, 0.83]  |  |
| Lindegren 2021                    | -0.0514                         | 0.261       | 13330     | 45634        | 7.1%   | 0.95 [0.57, 1.58]  |  |
| Pyykonen 2018 (7)                 | -0.9176                         | 0.4078      | 6874      | 205270       | 4.0%   | 0.40 [0.18, 0.89]  |  |
| Pyykonen 2018 (8)                 | -0.8226                         | 0.3779      | 5533      | 155339       | 4.5%   | 0.44 [0.21, 0.92]  |  |
| Pyykonen 2018 (9)                 | -0.9443                         | 0.3413      | 5104      | 106784       | 5.2%   | 0.39 [0.20, 0.76]  |  |
| Pyykonen 2018 (10)                | -0.7785                         | 0.3325      | 5568      | 64356        | 5.3%   | 0.46 [0.24, 0.88]  |  |
| Pyykonen 2018 (11)                | -0.0728                         | 0.2158      | 10127     | 27035        | 8.6%   | 0.93 [0.61, 1.42]  |  |
| Vivian-Taylor 2011                | -0.4943                         | 0.0528      | 218617    | 658236       | 14.6%  | 0.61 [0.55, 0.68]  | •  |
| Total (95% CI)                    |                                 |             | 353642    | 1592962      | 100.0% | 0.56 [0.47, 0.68]  | •  |
| Heterogeneity: Tau <sup>2</sup> = | 0.06: Chi <sup>2</sup> = 32.48. | . df = 13 ( | P = 0.002 | $ ^2 = 60\%$ |        |                    |  |
| Test for overall effect: 2        | Z = 5.99 (P < 0.000             | 001)        |           |              |        |                    | 0.01 0.1 1 10 100                        |
|                                   |                                 |             |           |              |        |                    | Favours [experimental] Favours [control] |
| E e ete ete e                     |                                 |             |           |              |        |                    |  |

Footnotes (1) 39 week (2) 40 weeks (3) 41 weeks (4) 39 weeks (5) 40 weeks (6) 41 weeks (7) 40+0-40+2 (8) 40+3-40+5 (9) 40+6-41+1 (10) 41+2-41+4 (11) 41+5-42+0

Figure S8 Forest Plot for induction of labor.

|  |                                  |            | C-section I                              | non-C-section |        | Odds Ratio         | Odds Ratio         |  |  |
|--|----------------------------------|------------|--|---------------|--------|--------------------|--------------------|--|--|
| Study or Subgroup  | log[Odds Ratio]                  | SE         | Total                                    | Total         | Weight | IV, Random, 95% CI | IV, Random, 95% Cl |  |  |
| 9.2.1 Analyzed studi   | es                               |            |  |               |        |                    |                    |  |  |
| Amitai 2021  | 1.1151                           | 0.2388     | 1767                                     | 10088         | 51.3%  | 3.05 [1.91, 4.87]  |                    |  |  |
| Yokoi 2021   | 0.708                            | 0.2474     | 240                                      | 1096          | 48.7%  | 2.03 [1.25, 3.30]  |                    |  |  |
| Subtotal (95% CI)  |                                  |            | 2007                                     | 11184         | 100.0% | 2.50 [1.68, 3.73]  | •                  |  |  |
| Heterogeneity: Tau <sup>2</sup> =  | = 0.02; Chi <sup>2</sup> = 1.40, | df = 1 (P  | = 0.24); l <sup>2</sup> = 2              | 29%           |        |                    |                    |  |  |
| Test for overall effect  | Z = 4.50 (P < 0.00               | 001)       |  |               |        |                    |                    |  |  |
|  |                                  |            |  |               |        |                    |                    |  |  |
| 9.2.2 Studies with ur  | nivariate effect siz             | e for disp | olay                                     |               |        |                    |                    |  |  |
| Alchalabi 1999   | 1.5892                           | 0.4942     | 50                                       | 294           | 0.0%   | 4.90 [1.86, 12.91] |                    |  |  |
| Bhat 2008  | 0.9243                           | 0.3261     | 45                                       | 364           | 0.0%   | 2.52 [1.33, 4.78]  |                    |  |  |
| Liu 2002   | 0.4886                           | 0.485      | 118                                      | 566           | 0.0%   | 1.63 [0.63, 4.22]  |                    |  |  |
| Meydanli 2001  | 1.2169                           | 0.6657     | 35                                       | 35            | 0.0%   | 3.38 [0.92, 12.45] |                    |  |  |
| Oliveira 2019  | 0.4121                           | 0.4542     | 36                                       | 42            | 0.0%   | 1.51 [0.62, 3.68]  |                    |  |  |
| Usta 1995  | 1.8469                           | 0.3394     | 205                                      | 732           | 0.0%   | 6.34 [3.26, 12.33] |                    |  |  |
| Yoder 2002   | 0.7885                           | 0.3537     | 198                                      | 1228          | 0.0%   | 2.20 [1.10, 4.40]  |                    |  |  |
| Subtotal (95% CI)  |                                  |            | 0  | 0             |        | Not estimable      |                    |  |  |
| Heterogeneity: Not a   | oplicable                        |            |  |               |        |                    |                    |  |  |
| Test for overall effect  | Not applicable                   |            |  |               |        |                    |                    |  |  |
|  |                                  |            |  |               |        |                    |                    |  |  |
| Total (95% CI)   |                                  |            | 2007                                     | 11184         | 100.0% | 2.50 [1.68, 3.73]  |                    |  |  |
| Heterogeneity: Tau <sup>2</sup> = 0.02; Chi <sup>2</sup> = 1.40, df = 1 (P = 0.24); l <sup>2</sup> = 29% |                                  |            |  |               |        |                    |                    |  |  |
| Test for overall effect  | Z = 4.50 (P < 0.00               |            | Favours [experimental] Favours [control] |               |        |                    |                    |  |  |
| Test for subaroup dif  | ferences: Not appli              | cable      |  |               |        |                    | , areas feeting    |  |  |

Figure S9 Forest Plot for cesarean delivery.



Figure S10 Forest Plot for thick meconium.

|   | Abnormal fetal heart rate   |           | Cont  | rol                     |        | Odds Ratio          | Odds Ratio                               |  |  |  |  |
|---|---|-----------|---|-------------------------|--------|---------------------|--|--|--|--|--|
| Study or Subgroup   | Events  | Total     | Events  | Total                   | Weight | M-H, Random, 95% CI | M-H, Random, 95% Cl                      |  |  |  |  |
| 11.1.1 Data before 90   | s   |           |   |                         |        |                     |  |  |  |  |  |
| Rossi 1989  | 16  | 190       | 6   | 48                      | 10.7%  | 0.64 [0.24, 1.74]   |  |  |  |  |  |
| Subtotal (95% CI)   |   | 190       |   | 48                      | 10.7%  | 0.64 [0.24, 1.74]   |  |  |  |  |  |
| Total events  | 16  |           | 6   |                         |        |                     |  |  |  |  |  |
| Heterogeneity: Not ap   | Heterogeneity: Not applicable   |           |   |                         |        |                     |  |  |  |  |  |
| Test for overall effect:  | Z = 0.87 (P = 0.39)   |           |   |                         |        |                     |  |  |  |  |  |
| 11.1.2 Data after 90s   |   |           |   |                         |        |                     |  |  |  |  |  |
| Alchalabi 1999  | 10  | 89        | 9   | 255                     | 11.4%  | 3.46 [1.36, 8.82]   |  |  |  |  |  |
| Amitai 2021   | 20  | 900       | 58  | 10956                   | 16.3%  | 4.27 [2.56, 7.13]   |  |  |  |  |  |
| Gurubacharya 2015   | 15  | 21        | 14  | 66                      | 9.6%   | 9.29 [3.04, 28.33]  |  |  |  |  |  |
| Lee 2016  | 5   | 18        | 7   | 100                     | 8.2%   | 5.11 [1.41, 18.49]  |  |  |  |  |  |
| Meydanli 2001   | 9   | 25        | 6   | 47                      | 9.0%   | 3.84 [1.18, 12.55]  |  |  |  |  |  |
| Oliveira 2019   | 15  | 21        | 14  | 66                      | 9.6%   | 9.29 [3.04, 28.33]  |  |  |  |  |  |
| Usta 1995   | 5   | 20        | 34  | 883                     | 10.0%  | 8.32 [2.86, 24.23]  |  |  |  |  |  |
| Yoder 2002  | 47  | 712       | 14  | 714                     | 15.2%  | 3.53 [1.93, 6.48]   |  |  |  |  |  |
| Subtotal (95% CI)   |   | 1806      |   | 13087                   | 89.3%  | 4.70 [3.50, 6.32]   | •  |  |  |  |  |
| Total events  | 126   |           | 156   |                         |        |                     |  |  |  |  |  |
| Heterogeneity: Tau <sup>2</sup> = 0.00; Chi <sup>2</sup> = 5.51, df = 7 (P = 0.60); l <sup>2</sup> = 0% |   |           |   |                         |        |                     |  |  |  |  |  |
| Test for overall effect:  | Z = 10.28 (P < 0.0000   | 1)        |   |                         |        |                     |  |  |  |  |  |
| Total (95% CI)  |   | 1996      |   | 13135                   | 100.0% | 4.13 [2.56, 6.65]   | •  |  |  |  |  |
| Total events  | 142   |           | 162   |                         |        |                     |  |  |  |  |  |
| Heterogeneity: Tau <sup>2</sup> =   | Heterogeneity: Tau <sup>2</sup> = 0.30; Chi <sup>2</sup> = 19.68, df = 8 (P = 0.01); I <sup>2</sup> = 59% |           |   |                         |        |                     |  |  |  |  |  |
| Test for overall effect:  | Z = 5.82 (P < 0.00001)  |           | Equation of the second |                         |        |                     |  |  |  |  |  |
| Test for subaroup diffe   | erences: Chi <sup>2</sup> = 14.06.  | df = 1 (P | = 0.0002  | 2). I <sup>2</sup> = 92 | 2.9%   |                     | Favours (experimental) Favours (control) |  |  |  |  |

Figure S11 Forest Plot for abnormal fetal heart rate.

|                                   | Male     |                         | Male Female                              |        |        | Odds Ratio          | Odds Ratio          |
|-----------------------------------|----------|-------------------------|--|--------|--------|---------------------|---------------------|
| Study or Subgroup                 | Events   | Total                   | Events                                   | Total  | Weight | M-H, Random, 95% Cl | M-H, Random, 95% Cl |
| Amitai 2021                       | 37       | 6006                    | 41                                       | 5847   | 10.2%  | 0.88 [0.56, 1.37]   |                     |
| Gad 2020                          | 12       | 51                      | 10                                       | 50     | 2.7%   | 1.23 [0.48, 3.18]   |                     |
| Liu 2002                          | 13       | 351                     | 11                                       | 333    | 3.6%   | 1.13 [0.50, 2.55]   |                     |
| Mehar 2016                        | 11       | 249                     | 16                                       | 150    | 3.8%   | 0.39 [0.17, 0.86]   |                     |
| Oliveira 2019                     | 15       | 45                      | 14                                       | 42     | 3.1%   | 1.00 [0.41, 2.44]   |                     |
| Paudel 2020                       | 71       | 32401                   | 51                                       | 27661  | 13.9%  | 1.19 [0.83, 1.70]   |                     |
| Usta 1995                         | 24       | 451                     | 15                                       | 486    | 5.3%   | 1.76 [0.91, 3.41]   |                     |
| Vivian-Taylor 2011                | 1209     | 449875                  | 940                                      | 427162 | 39.1%  | 1.22 [1.12, 1.33]   | •                   |
| Yoder 2002                        | 31       | 677                     | 30                                       | 749    | 8.2%   | 1.15 [0.69, 1.92]   |                     |
| Yokoi 2021                        | 56       | 733                     | 32                                       | 603    | 10.1%  | 1.48 [0.94, 2.31]   | <b>+</b>            |
| Total (95% CI)                    |          | 490839                  |  | 463083 | 100.0% | 1.15 [0.98, 1.36]   | •                   |
| Total events                      | 1479     |                         | 1160                                     |        |        |                     |                     |
| Heterogeneity: Tau <sup>2</sup> = | 0.02; Ch | i <sup>2</sup> = 12.16, |  |        |        |                     |                     |
| Test for overall effect:          | Z=1.74   | (P = 0.08)              | Favours [experimental] Favours [control] |        |        |                     |                     |

Figure S12 Forest Plot for gender.

|   | Gestational age ≥                 | 42 wks | Gestational age < 42 wks |        | Odds Ratio |                     | Odds Ratio                               |   |
|---|-----------------------------------|--------|--------------------------|--------|------------|---------------------|--|---|
| Study or Subgroup                               | Events                            | Total  | Events                   | Total  | Weight     | M-H, Random, 95% Cl | M-H, Random, 95% Cl                      |   |
| Avula 2017                                      | 2                                 | 4      | 19                       | 156    | 2.8%       | 7.21 [0.96, 54.24]  |  |   |
| De los 2011                                     | 12                                | 388    | 78                       | 12603  | 18.9%      | 5.12 [2.77, 9.49]   |  |   |
| Gurubacharya 2015                               | 2                                 | 41     | 45                       | 694    | 5.1%       | 0.74 [0.17, 3.16]   |  |   |
| Mehar 2016                                      | 1                                 | 7      | 26                       | 392    | 2.5%       | 2.35 [0.27, 20.22]  |  |   |
| Paudel 2020                                     | 10                                | 1459   | 112                      | 58603  | 17.8%      | 3.60 [1.88, 6.90]   | _ <b>_</b>                               |   |
| Usher 1988                                      | 6                                 | 340    | 15                       | 7322   | 10.4%      | 8.75 [3.37, 22.70]  |  |   |
| Vivian-Taylor 2011                              | 174                               | 19882  | 1975                     | 857155 | 42.5%      | 3.82 [3.27, 4.47]   |  |   |
| Total (95% CI)                                  |                                   | 22121  |                          | 936925 | 100.0%     | 4.03 [2.84, 5.71]   | •  |   |
| Total events                                    | 207                               |        | 2270                     |        |            |                     |  |   |
| Heterogeneity: Tau <sup>2</sup> =               | 0.07; Chi <sup>2</sup> = 9.35, df |        | 1                        |        |            |                     |  |   |
| Test for overall effect: Z = 7.83 (P < 0.00001) |                                   |        |                          |        |            |                     | Favours [experimental] Favours [control] | , |

**Figure S13** Forest Plot for post-term (gestational age ≥42 weeks).

|                                   | SG        | A                    | Con       | trol                                     |        | Odds Ratio          | Odds Ratio          |
|-----------------------------------|-----------|----------------------|-----------|--|--------|---------------------|---------------------|
| Study or Subgroup                 | Events    | Total                | Events    | Total                                    | Weight | M-H, Random, 95% CI | M-H, Random, 95% Cl |
| Ashwal 2022                       | 18        | 109                  | 3         | 55                                       |        | Not estimable       |                     |
| Avula 2017                        | 18        | 109                  | 3         | 55                                       | 0.7%   | 3.43 [0.96, 12.19]  |                     |
| Cassidy 1985                      | 1         | 100                  | 0         | 100                                      | 0.1%   | 3.03 [0.12, 75.28]  |                     |
| Usta 1995                         | 7         | 120                  | 32        | 817                                      | 1.7%   | 1.52 [0.66, 3.52]   |                     |
| Vivian-Taylor 2011                | 380       | 86477                | 1769      | 790300                                   | 97.4%  | 1.97 [1.76, 2.20]   |                     |
| Total (95% CI)                    |           | 86806                |           | 791272                                   | 100.0% | 1.97 [1.76, 2.20]   | •                   |
| Total events                      | 406       |                      | 1804      |  |        |                     |                     |
| Heterogeneity: Tau <sup>2</sup> = | 0.00; Chi | <sup>2</sup> = 1.17, | df = 3 (P |  |        |                     |                     |
| Test for overall effect:          | Z=12.10   | (P < 0.0             | 10001)    | Favours [experimental] Favours [control] |        |                     |                     |

Figure S14 Forest Plot for small for gestational age (SGA).



Figure S15 Forest Plot for Apgar <7 at 5 min.