Supplementary Material

Association of the Dysfunctional Placentation Endotype of Prematurity with Bronchopulmonary Dysplasia: A Systematic Review, Meta-analysis and Meta-regression

1. Methods

1.1. Search strategy

Pubmed

1	((((((outcome AND preterm)) OR (risk factor AND preterm))) AND (((((((case control) OR Case-Control Study) OR Case-Base Studies) OR cohort study) OR Observational study) OR RCT) OR Randomized controlled trial))) AND ((((((((((premature infant [mesh]) OR premature infant [tiab]) OR premature infant) OR Neonatal Prematurity) OR Infants) OR Premature) OR Prematurity) OR Neonatal) OR Neonatal) OR before 37 completed weeks of gestation))) AND ((((pre-eclampsia AND preterm))) OR (((EPH AND preterm AND preterm)) OR (hellp syndrome AND preterm)) OR (gestational hypertensive disorder AND preterm)) OR (pre-existing hypertension AND preterm)) OR (eclampsia AND preterm)) OR (toxemia AND preterm)) OR (pregnancy toxemia AND preterm)) OR (edema proteinuria hypertension gestosis AND preterm)) OR (hypertensive disorders of pregnancy AND preterm)) OR (maternal hypertension AND preterm))))
2	(bronchopulmonary dysplasia [MESH] OR bronchopulmonary dysplasia [tiab] OR BPD [tiab] OR chronic lung disease [tiab] OR CLD [tiab] OR pulmonary hypertension [MESH] OR pulmonary hypertension [tiab]) AND (preterm infant [tiab] OR Premature Infant [tiab] OR Premature Infants [tiab] OR preterm infants [tiab] OR neonatal prematurity [tiab] OR very low birth weight infant [tiab] OR Very-Low-Birth-Weight Infant [tiab] OR Very-Low-Birth-Weight Infants [tiab] OR very low birth weight infants [tiab] OR Extremely Low Birth Weight Infant [tiab] OR Extremely Low Birth Weight Infants [tiab] OR preterm infant [MESH] OR Premature Infant [MESH] OR Premature Infants [MESH] OR preterm infants [MESH] OR neonatal prematurity [MESH] OR very low birth weight infant [MESH] OR Very-Low-Birth-Weight Infant [MESH] OR Very-Low-Birth-Weight Infants [MESH] OR very low birth weight infants [MESH] OR Extremely Low Birth Weight Infant [MESH] OR Extremely Low Birth Weight Infants) AND (cohort [MESH] OR Incidence Studies [MESH] OR Incidence Study [MESH] OR concurrent studies [MESH] OR concurrent studies [MESH] OR cohort analysis [MESH] OR observational studies [MESH] OR observational study [MESH] OR case control study [MESH] OR case control studies [MESH] OR case control [MESH] OR cohort [tiab] OR Incidence Studies [tiab] OR Incidence Study [tiab] OR concurrent studies [tiab] OR concurrent studies [tiab] OR cohort analysis [tiab] OR observational studies [tiab] OR observational study [tiab] OR case control study [tiab] OR case control studies [tiab] OR case control [tiab])

3	(fetal growth restriction [tiab] OR intrauterine growth [tiab] OR absent end diastolic [tiab] OR reversed end diastolic [tiab] OR small for gestational age [tiab] OR SGA [tiab] OR small for date [tiab] OR IUGR [tiab] OR fetal growth restriction [MESH] OR intrauterine growth [MESH] OR absent end diastolic [MESH] OR reversed end diastolic [MESH] OR small for gestational age [MESH] OR SGA [MESH] OR small for date [MESH] OR IUGR [MESH]) AND (preterm infant [tiab] OR Premature Infant [tiab] OR Premature Infants [tiab] OR preterm infants [tiab] OR neonatal prematurity [tiab] OR very low birth weight infant [tiab] OR Very-Low-Birth-Weight Infant [tiab] OR Very-Low-Birth-Weight Infants [tiab] OR very low birth weight infants [tiab] OR Extremely Low Birth Weight Infant [tiab] OR Extremely Low Birth Weight Infants [tiab] OR preterm infant [MESH] OR Premature Infant [MESH] OR Premature Infants [MESH] OR preterm infants [MESH] OR neonatal prematurity [MESH] OR very low birth weight infant [MESH] OR Very-Low-Birth-Weight Infant [MESH] OR Very-Low-Birth-Weight Infants [MESH] OR very low birth weight infants [MESH] OR Extremely Low Birth Weight Infant [MESH] OR Extremely Low Birth Weight Infants [MESH]) AND (cohort [MESH] OR Incidence Studies [MESH] OR Incidence Study [MESH] OR concurrent studies [MESH] OR concurrent studies [MESH] OR cohort analysis [MESH] OR observational studies [MESH] OR observational study [MESH] OR case control study [MESH] OR case control studies [MESH] OR case control [MESH] OR cohort [tiab] OR Incidence Studies [tiab] OR Incidence Study [tiab] OR concurrent studies [tiab] OR concurrent studies [tiab] OR cohort analysis [tiab] OR observational studies [tiab] OR observational study [tiab] OR case control study [tiab] OR case control studies [tiab] OR case control [tiab])

EMBASE

1	(pre-eclampsia or preeclampsia or EPH or hellp syndrome or gestational hypertensive disorder or pre-existing hypertension or eclampsia or toxemia or pregnancy toxemia or edema proteinuria hypertension gestosis or maternal hypertension or pregnancy-induced hypertension).af.
2	(premature infant or Neonatal Prematurity or Infants, Premature or Prematurity or Neonatal or Preterm Infants).af.
3	(case control or Case-Control Study or Case-Base Studies or cohort study or RCT).af.
4	(risk factors or outcome or risk factor).af.
5	1 and 2 and 3 and 4
6	('chronic lung disease'/exp OR 'chronic lung disease') AND ('intrauterine growth retardation'/exp OR 'intrauterine growth retardation')
7	('chronic lung disease'/exp OR 'chronic lung disease' OR 'pulmonary hypertension') AND ('prematurity'/exp OR 'prematurity') AND ('cohort analysis'/exp OR 'cohort analysis' OR 'case control study'/exp OR 'case control study')
8	('intrauterine growth retardation'/exp OR 'intrauterine growth retardation') AND ('prematurity'/exp OR 'prematurity') AND ('cohort analysis'/exp OR 'cohort analysis' OR 'case control study'/exp OR 'case control study')

Web of Science

1	**TOPIC:** (pre-eclampsia or preeclampsia or EPH or hellp syndrome or gestational hypertensive disorder or hypertensive disorders of pregnancy or pre-existing hypertension or eclampsia or toxemia or pregnancy toxaemia or edema proteinuria hypertension gestosis or maternal hypertension or pregnancy-induced hypertension) *AND* **TOPIC:** (premature infant or Neonatal Prematurity or Infants, Premature or Prematurity or Neonatal or Preterm Infants) *AND* **TOPIC:** (case control or Case-Control Study or Case-Base Studies or cohort study or observational) *AND* **TOPIC:** (risk factors or outcome or risk factor)
2	((bronchopulmonary dysplasia OR BPD OR chronic lung disease) AND ("preterm infant" OR "Premature Infant" OR "Premature Infants" OR "preterm infants" OR "neonatal prematurity" OR "very low birth weight" OR "Extremely Low Birth Weight" OR Extremely Low Birth Weight Infants) AND (cohort OR "Incidence Studies" OR "Incidence Study" OR "concurrent studies" OR "concurrent studies" OR "cohort analysis" OR "observational studies" OR "observational study" OR case control))

3	((“fetal growth restriction” OR “intrauterine growth retardation” or “intrauterine growth restriction” OR “small for gestational age”) AND (“preterm infant” OR “Premature Infant” OR “Premature Infants” OR “preterm infants” OR “neonatal prematurity” OR “very low birth weight” OR “Extremely Low Birth Weight” OR Extremely Low Birth Weight Infants) AND (cohort OR Incidence Studies OR Incidence Study OR concurrent studies OR concurrent studies OR cohort analysis OR observational studies OR observational study OR case control study OR case control studies OR case control))

No language limits were set. Narrative reviews, systematic reviews, case reports, letters, editorials, and commentaries were excluded, but read to identify potential additional studies. Additional strategies to identify studies included manual review of reference lists from key articles that fulfilled our eligibility criteria, use of “related articles” feature in PubMed, and use of the “cited by” tool in Web of Science and Google scholar. Two reviewers independently screened the results of the searches, and included studies according to the inclusion criteria using EndNote (RRID:SCR_014001), using the methodology described by Bramer et al.[1]

1.2. Supplementary information on methods

Study selection

Studies were included if they examined preterm (gestational age, GA <37 weeks) or very low birth weight (<1500g) infants and reported primary data that could be used to measure the association between exposure to hypertensive disorders of pregnancy (HDP) or small for GA (SGA)/intrauterine growth restriction (IUGR) and the development of BPD. Therefore, we selected cohort or case-control studies in which the exposure (HDP or SGA/IUGR) was the independent variable and the outcome (BPD) the dependent variable as well as studies in which the outcome was the independent variable and the exposure the dependent variable. Studies that exclusively included late preterm infants (GA ≥34 weeks) or that combined preterm and term infants were excluded. The absence of a clear definition of BPD was also an exclusion criterion. Due to the high number of included studies, no additional efforts were made to clarify the definitions or other data with the authors. Abstracts and unpublished studies were also excluded. To identify relevant studies, two reviewers (M.P., M. A-F) independently screened the results of the searches and applied inclusion criteria using a structured form. Discrepancies were resolved through discussion or consultation with two other reviewers (E. V-M, E.V.).

Data extraction

Data extracted from each study included citation information, language of publication, location where research was conducted, time period of the study, study objectives, study design, inclusion/exclusion criteria, definition criteria for HDP, IUGR, SGA, BPD, and BPD-PH, patient characteristics, and results (including raw numbers or summary statistics when raw numbers were not available). Outcomes considered in meta-analysis were: 1) BPD28, defined as oxygen requirement on postnatal day 28; 2) BPD36, defined as oxygen requirement at the postmenstrual age (PMA) of 36 weeks; 3) BPD36 or death; 4) Severe BPD, defined as need for ⩾ 30% oxygen and/or positive pressure at 36 weeks PMA; 5) BPD-associated PH, defined by any echocardiographic criteria as long as the evaluation was performed at a postnatal age>4 weeks. Any definition of HDP or SGA/IUGR was accepted but we performed sub-group analysis based on the different definitions. When a study used more than one definition criteria for growth restriction, definitions based on assessment of fetal growth prevailed over definitions based on BW. When a study used different BW threshold percentiles to define SGA, data from the lowest percentile were included. When a study did not specify the threshold percentile used, it was grouped together with the studies that used the 10^{th} percentile.

Statistical analysis

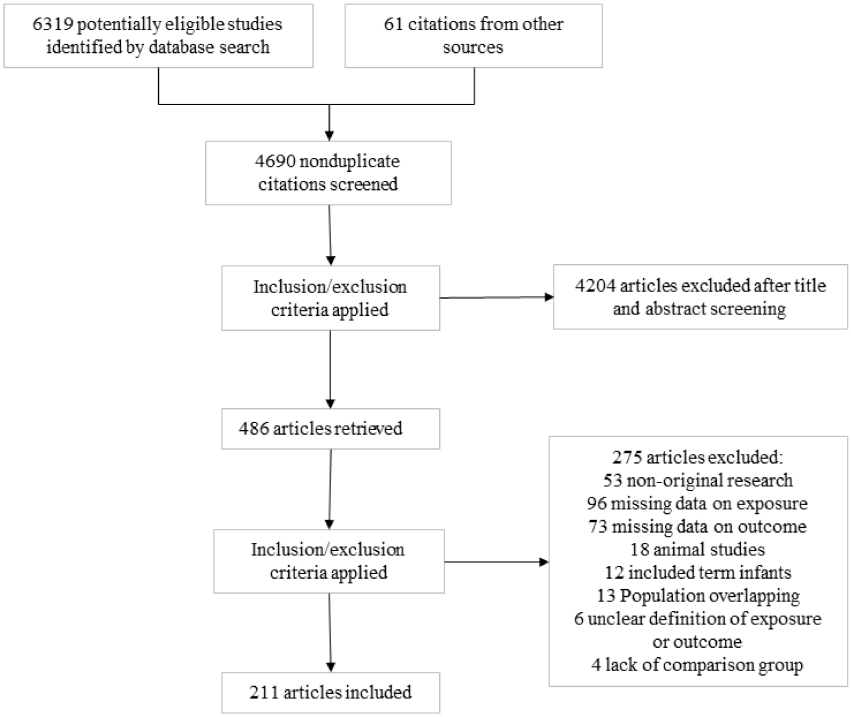
Studies were combined and analyzed using COMPREHENSIVE META-ANALYSIS V3.0 software (Biostat Inc., Englewood, NJ, USA). For dichotomous outcomes, the odds ratio (OR) with 95% confidence interval (CI) was calculated from the data provided in the studies. Reported OR were included when studies reported them and did not include the numerical data for its calculation. For continuous outcomes (example: gestational age), the mean difference (MD) with 95% CI was calculated. When studies reported continuous variables as median and range or interquartile range, we estimated the mean and standard deviation using the method of Wan et al. and the calculator they provided.[2]

Due to anticipated heterogeneity, summary statistics were calculated with a random-effects model. This model accounts for variability between studies as well as within studies. Subgroup analyses were conducted according to the mixed-effects model.[3] In this model, a random-effects model is used to combine studies within each subgroup, and a fixed-effect model is used to combine subgroups and yield the overall effect. The study-to-study variance (tau-squared) is not assumed to be the same for all subgroups. This value is computed within subgroups and not pooled across subgroups. Statistical heterogeneity was assessed by Cochran's Q statistic and by the I^2 statistic, which is derived from Q and describes the proportion of total variation that is due to heterogeneity beyond chance.[4] The I^2 statistic was interpreted as follows: low heterogeneity ($25\% \leq I^2 < 50\%$), moderate heterogeneity ($50\% \leq I^2 < 75\%$), and high heterogeneity ($I^2 \geq 75\%$). We used the Egger's regression test and funnel plots to assess publication bias. A probability value of less than 0.05 (0.10 for heterogeneity) was considered statistically significant.

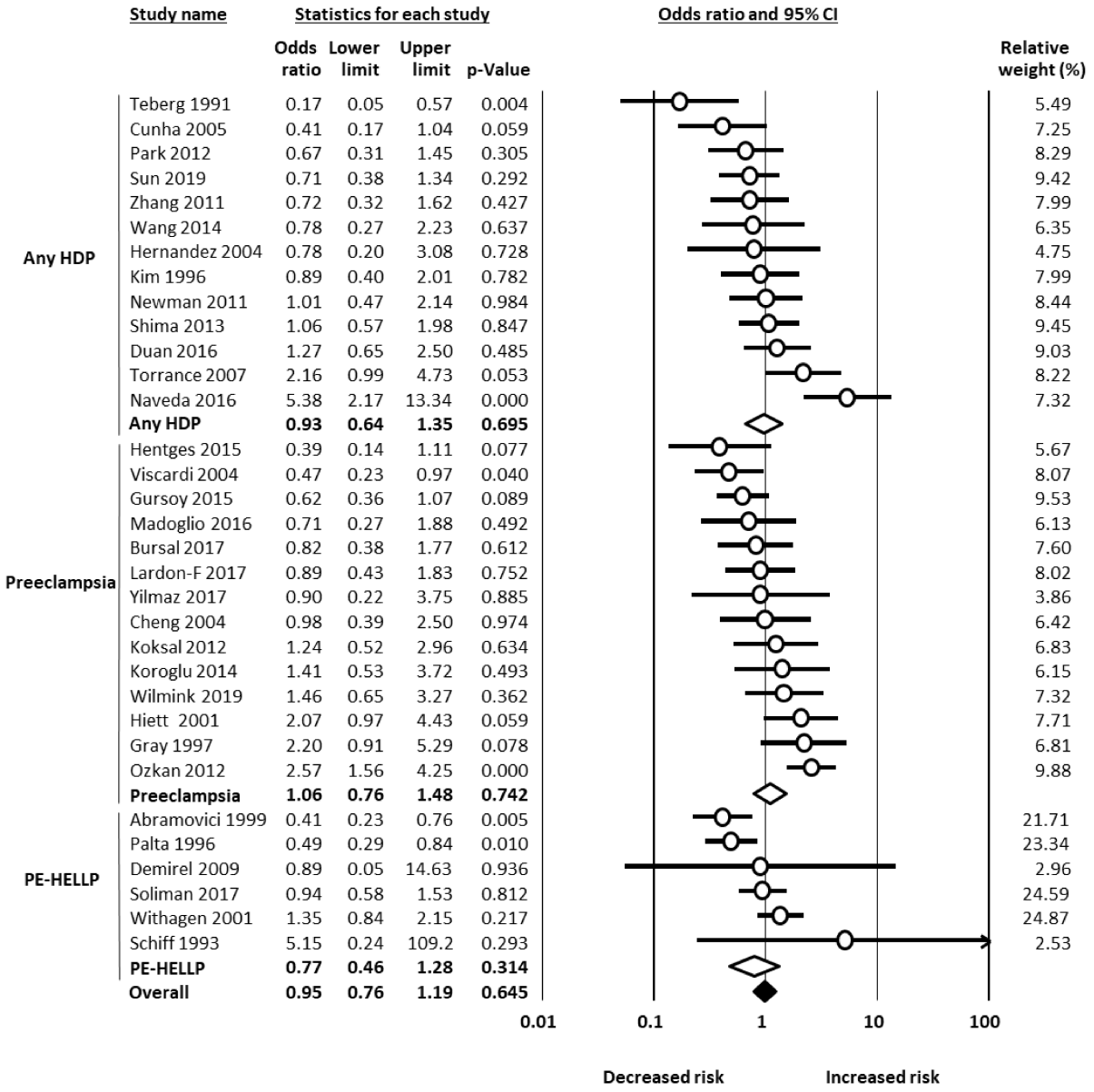
Potential sources of heterogeneity were assessed through subgroup analysis and/or random effects (method of moments) univariate meta-regression analysis.[5] For continuous covariates (examples: mean gestational age of the cohort, difference in mean gestational age between infants exposed and unexposed to HDP) we used meta-regression analyses to test whether there was a significant relationship between the covariate and effect size, as indicated by a Z-value and an associated p-value. Meta-regression coefficient indicates the change in the log of the OR of the association between BPD and the corresponding exposure for a unit change in the predictor covariate. Subgroups were compared using meta-regression for categorical covariates. For both categorical and continuous covariates, the R^2 analog, defined as the total between-study variance explained by the moderator, was calculated based on the meta-regression matrix. [5] Covariates defined a priori were: 1) Continuous: mean or median GA of the entire cohort, study time (median year of cohort inclusion), differences between exposed and unexposed infants on GA, sex, rate of use of antenatal corticosteroids, and rate of respiratory distress syndrome (RDS); 2) Categorical: HDP type, SGA/IUGR type, study included only infants with GA<28 weeks (yes/no), DM of GA between exposed and unexposed infants statistically significant (P<0.05, yes/no), and geographical location (continent) of the study. The clinical covariates were selected based on their relevance on the pathogenesis of BPD. On the basis of the recommendation of an anonymous reviewer, we added three categorical covariates related to the design of the studies: Prospective vs. Retrospective; Cohort vs. Case-control; and Exposure vs. Outcome as independent variable.

2. Results

2.1. Supplementary Figures

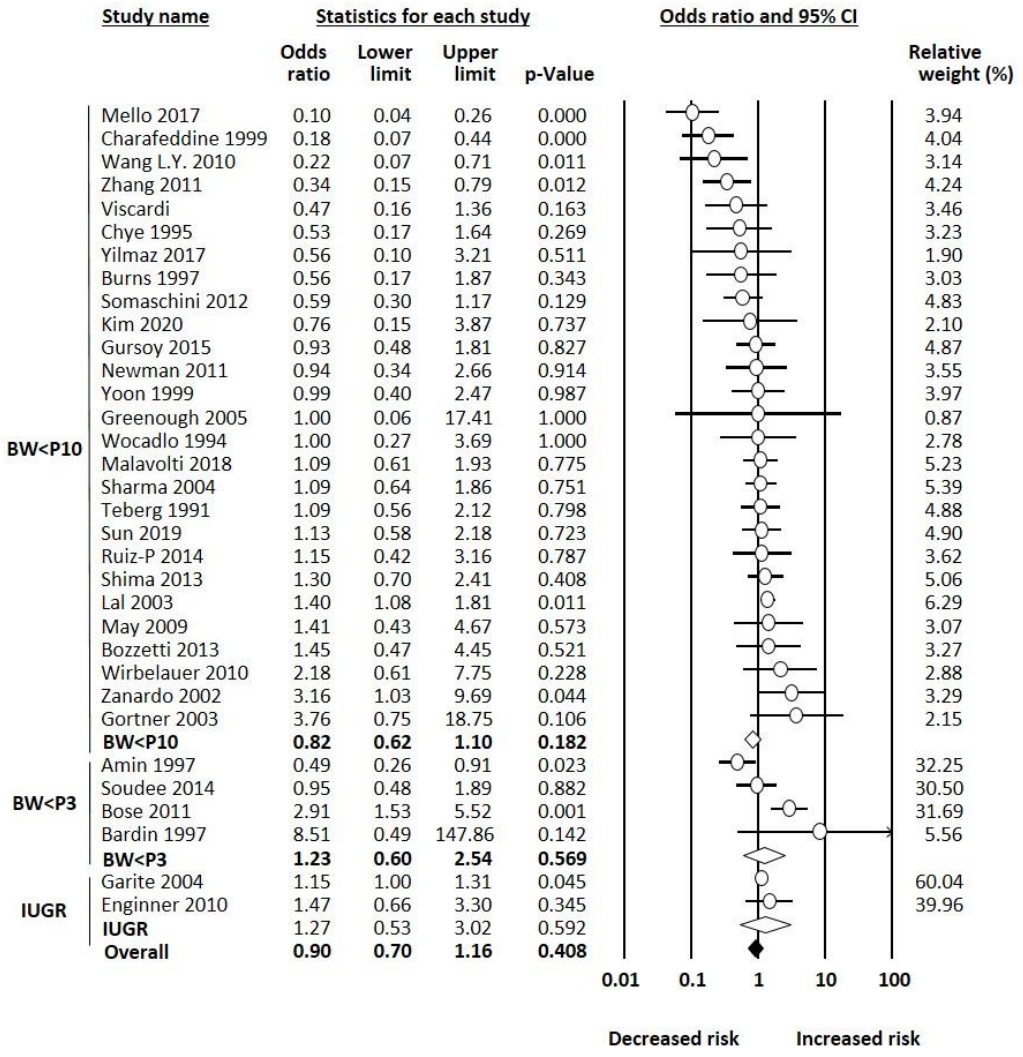


Supplementary Figure 1. Flow diagram of the systematic search.



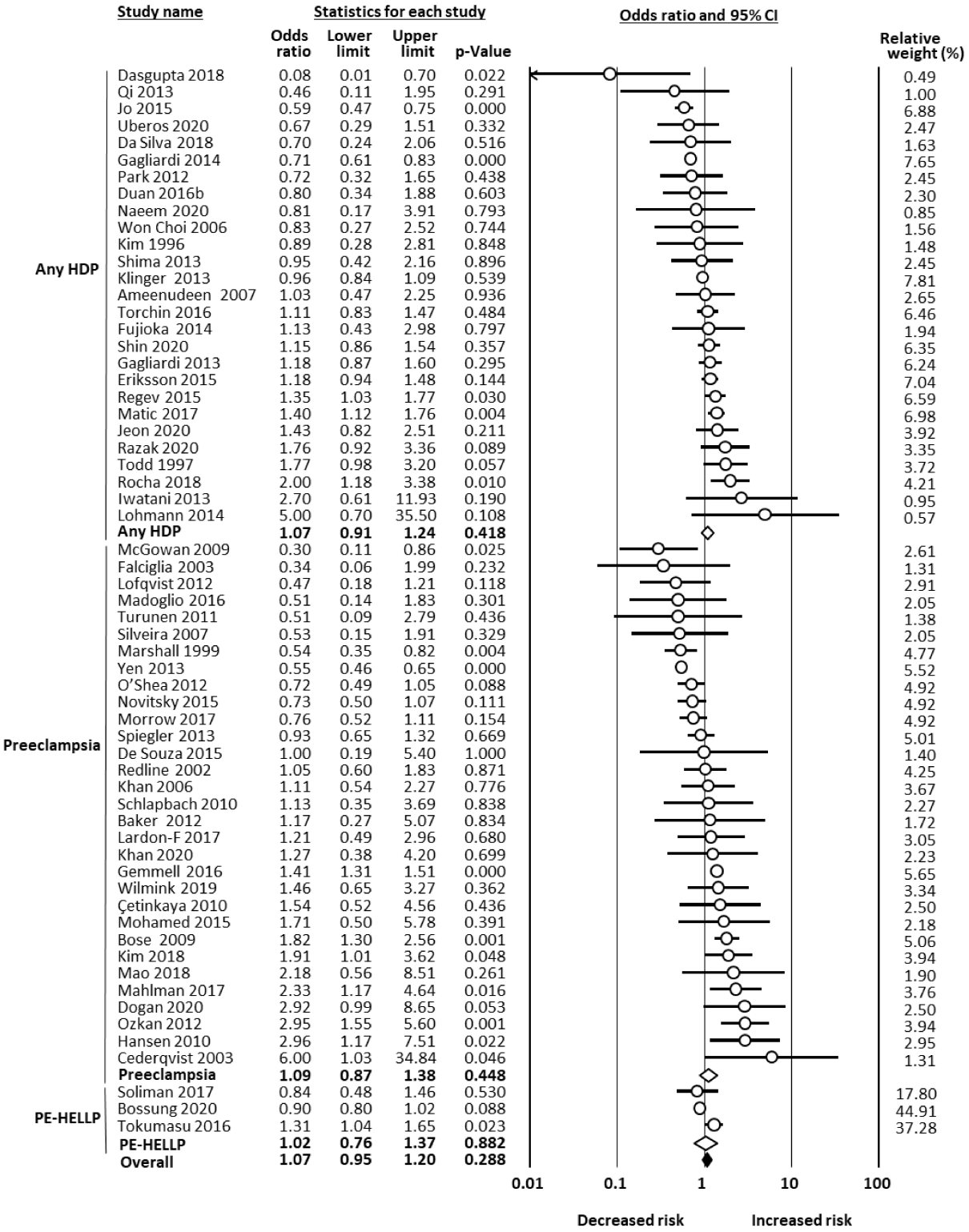
Supplementary Figure 2. Meta-analysis of hypertensive disorders of pregnancy (HDP) and bronchopulmonary dysplasia, defined as oxygen requirement on postnatal day 28 (BPD28).

CI: confidence interval; PE: preeclampsia.



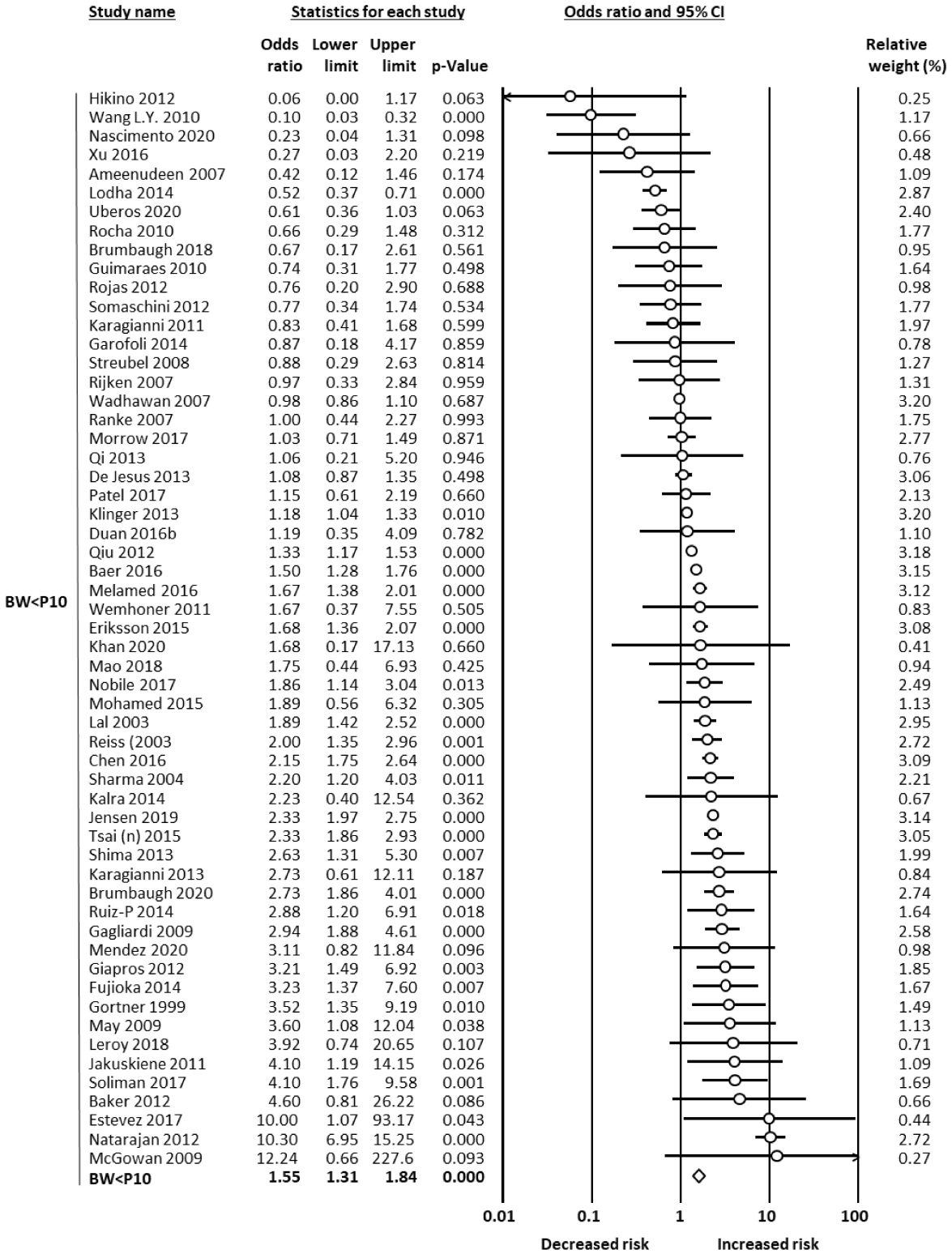
Supplementary Figure 3. Meta-analysis of small for gestational age/intrauterine growth restriction and bronchopulmonary dysplasia, defined as oxygen requirement on postnatal day 28 (BPD28).

BW: birth weight; CI: confidence interval; IUGR: intrauterine growth restriction (defined on the basis of fetal growth assessment); P3: 3rd percentile; P10: 10th percentile.

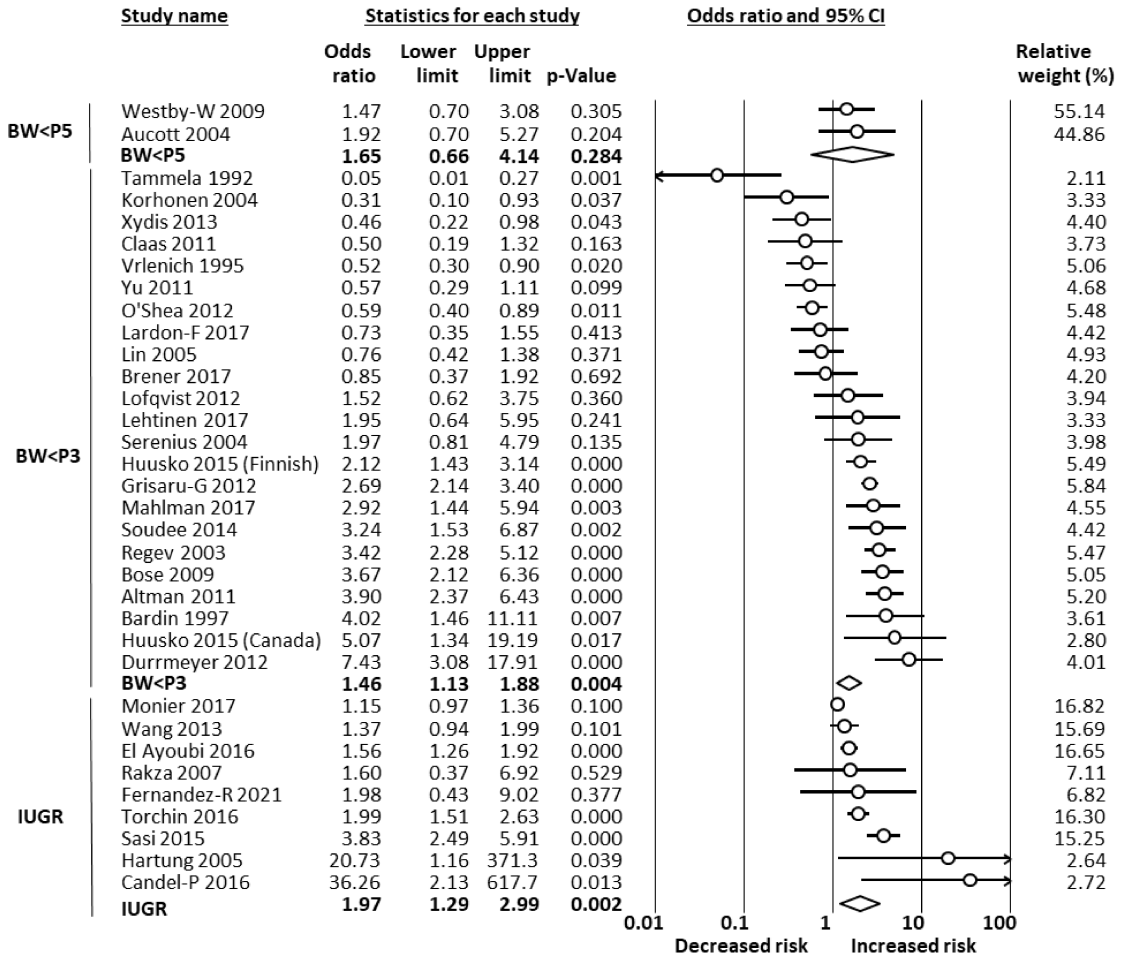


Supplementary Figure 4. Meta-analysis of hypertensive disorders of pregnancy (HDP) and bronchopulmonary dysplasia, defined as oxygen requirement at the postmenstrual age of 36 weeks (BPD36).

CI: confidence interval; PE: preeclampsia.

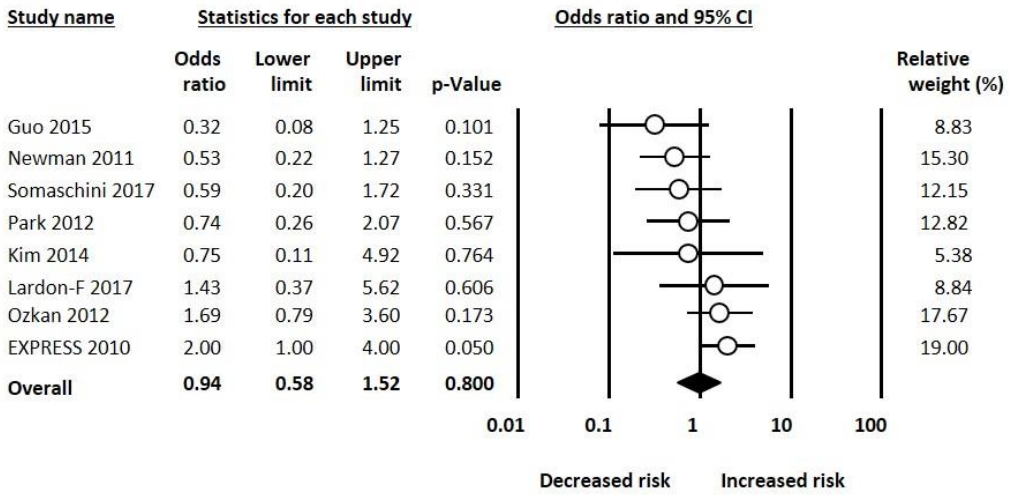


Supplementary Figure 5. Meta-analysis of the association between birth weight (BW) below the 10th percentile and bronchopulmonary dysplasia, defined as oxygen requirement at the postmenstrual age of 36 weeks (BPD36).



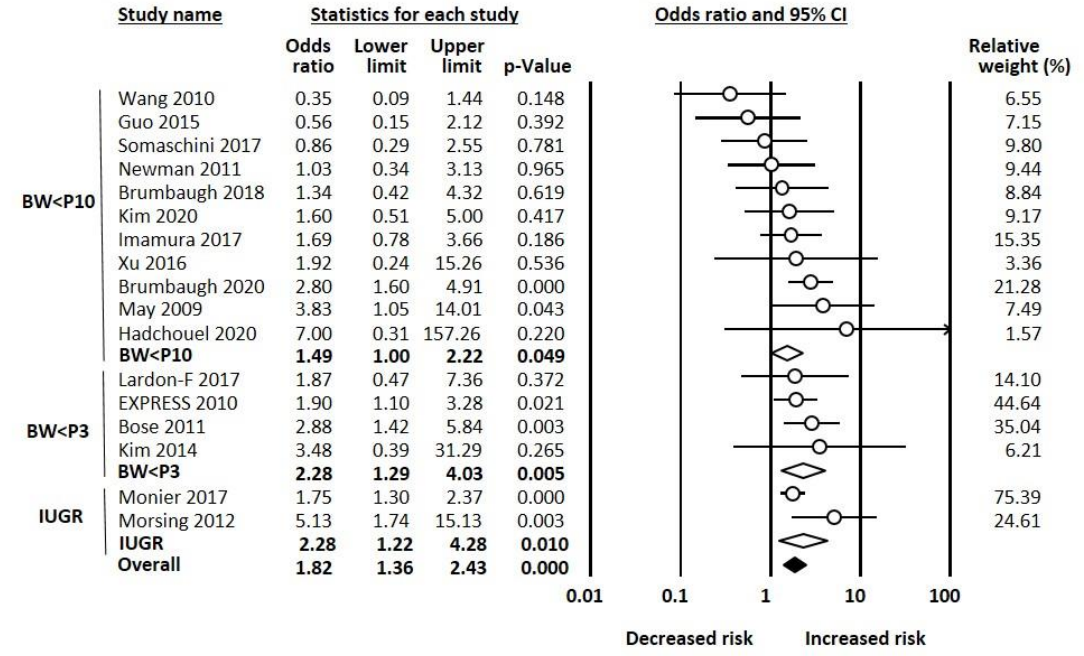
Supplementary Figure 6. Meta-analysis of the association between small for gestational age/intrauterine growth restriction and bronchopulmonary dysplasia, defined as oxygen requirement at the postmenstrual age of 36 weeks (BPD36).

BW: birth weight; CI: confidence interval; IUGR: intrauterine growth restriction (defined on the basis of fetal growth assessment); P5: 5th percentile; P10: 10th percentile.



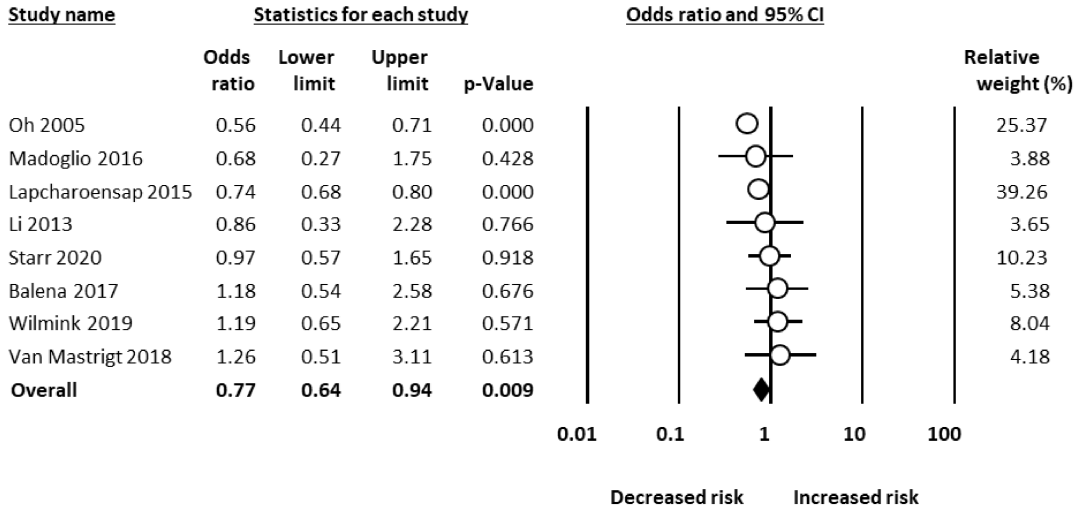
Supplementary Figure 7. Meta-analysis of hypertensive disorders of pregnancy and severe bronchopulmonary dysplasia.

CI: confidence interval.

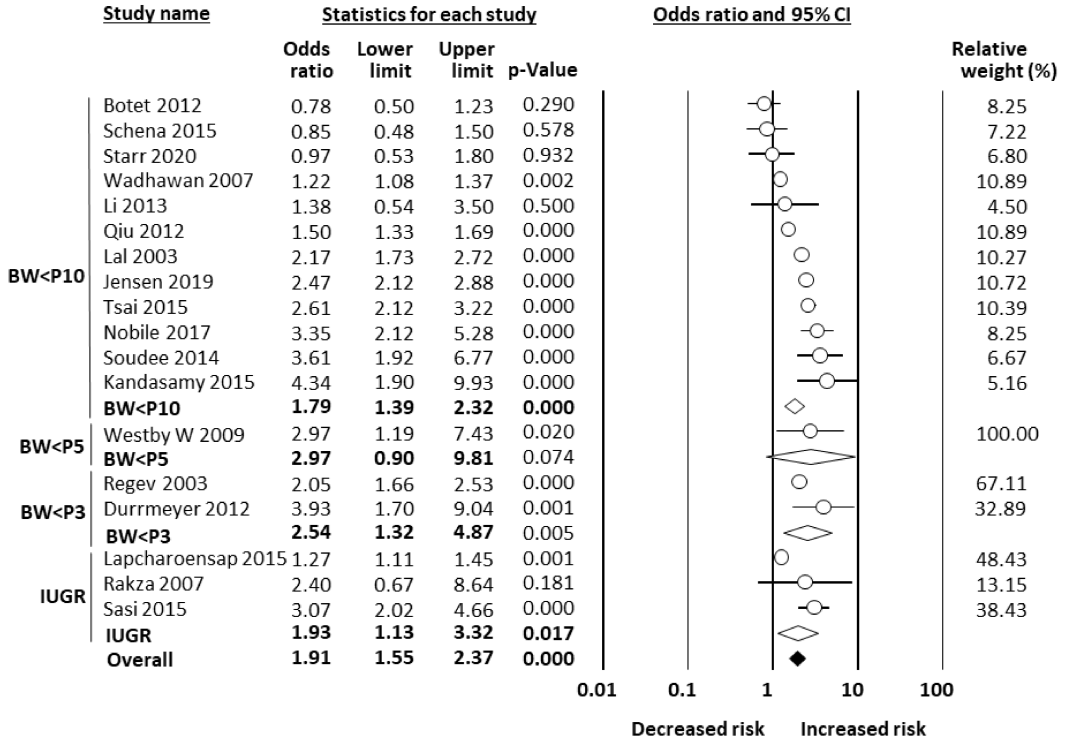


Supplementary Figure 8. Meta-analysis of small for gestational age/intrauterine growth restriction and severe bronchopulmonary dysplasia.

BW: birth weight; CI: confidence interval; IUGR: intrauterine growth restriction (defined on the basis of fetal growth assessment); P3: 3rd percentile; P10: 10th percentile.

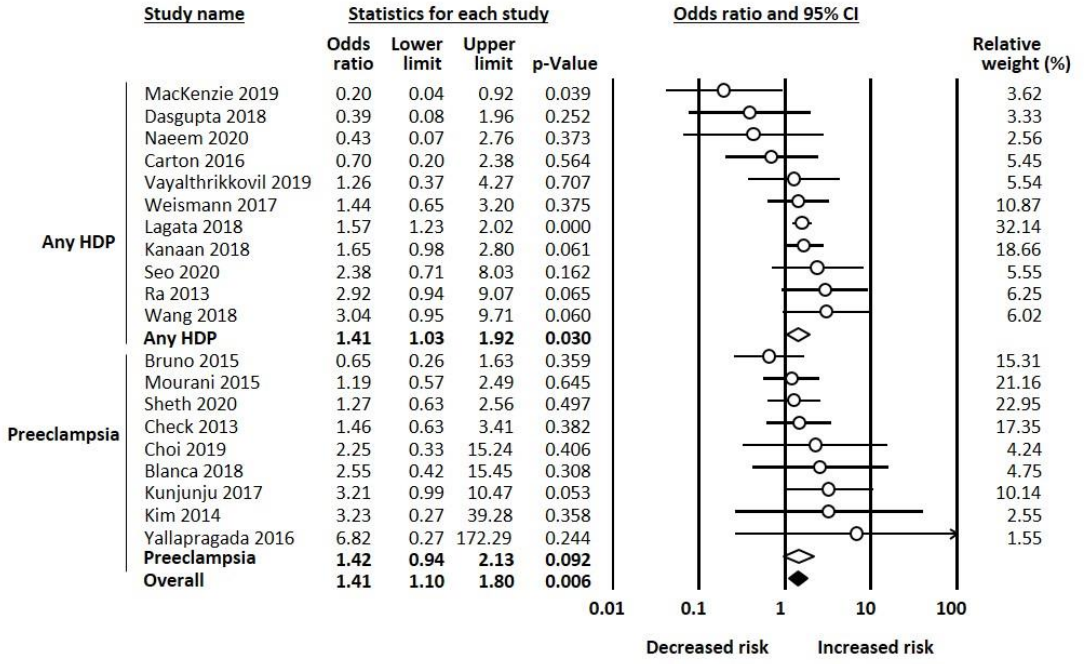


Supplementary Figure 9. Meta-analysis of hypertensive disorders of pregnancy and the combined outcome bronchopulmonary dysplasia or death.



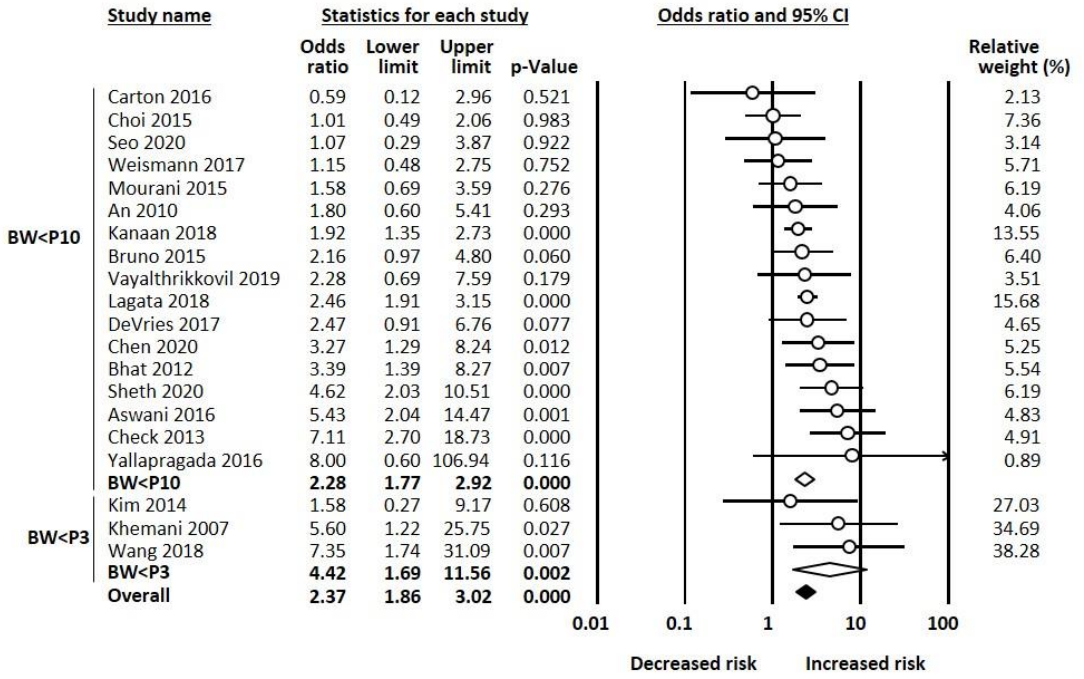
Supplementary Figure 10. Meta-analysis of small for gestational age/intrauterine growth restriction and the combined outcome bronchopulmonary dysplasia or death.

BW: birth weight; CI: confidence interval; IUGR: intrauterine growth restriction (defined on the basis of fetal growth assessment); P3: 3rd percentile; P5: 5th percentile; P10: 10th percentile.



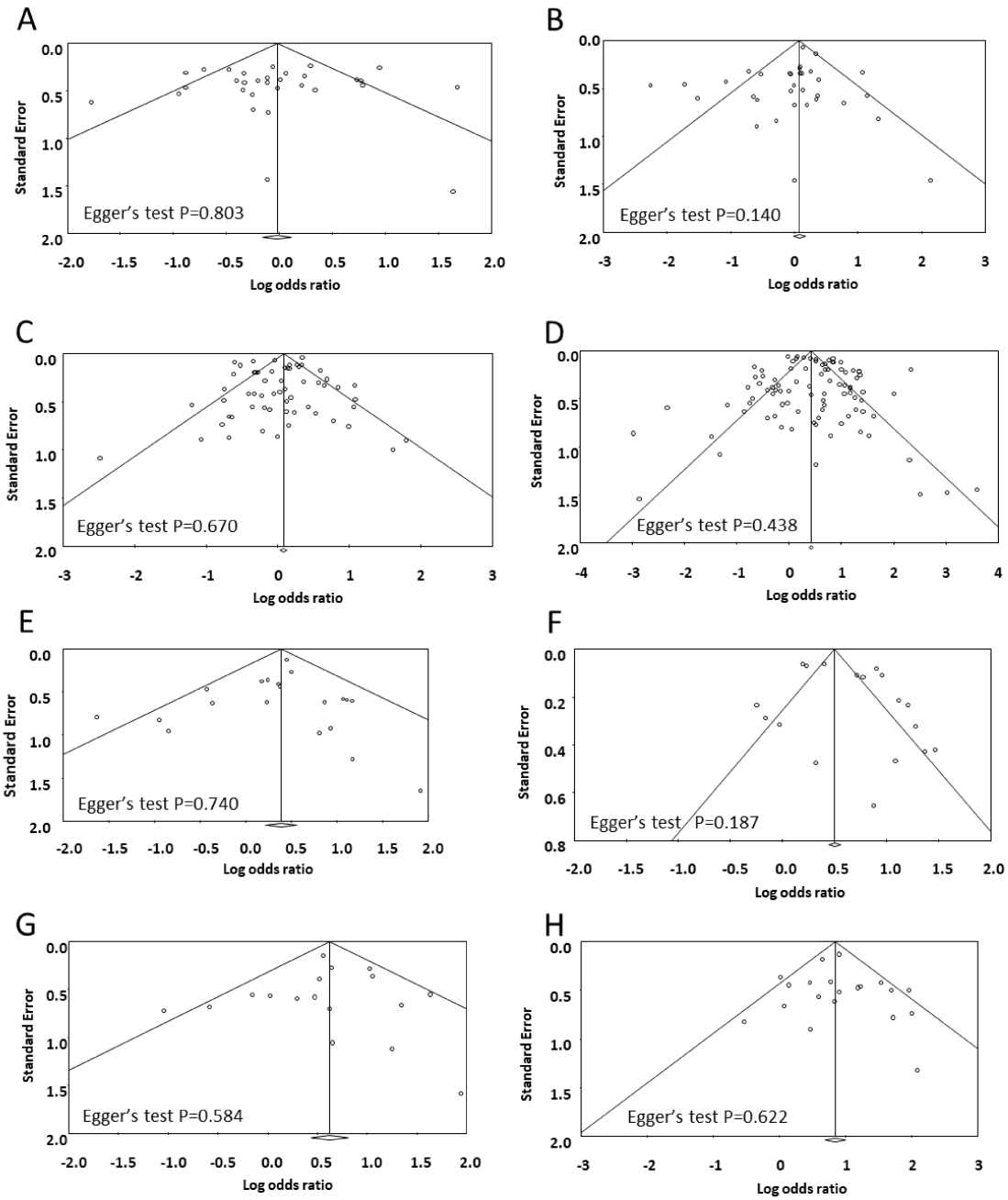
Supplementary Figure 11. Meta-analysis of hypertensive disorders of pregnancy (HDP) and bronchopulmonary dysplasia-associated pulmonary hypertension.

CI: confidence interval.



Supplementary Figure 12. Meta-analysis of small for gestational age/intrauterine growth restriction and bronchopulmonary dysplasia-associated pulmonary hypertension.

BW: birth weight; CI: confidence interval; IUGR: intrauterine growth restriction (defined on the basis of fetal growth assessment); P3: 3rd percentile; P10: 10th percentile.



Suplementary Figure 13. Funnel plot for publication bias analysis for the studies included in the different meta-analyses.

A: Meta-analysis of hypertensive disorders of pregnancy (HDP) and BPD28. B: Meta-analysis of small for gestational age (SGA)/intrauterine growth restriction (IUGR) and BPD28. C: Meta-analysis of HDP and BPD36. D: Meta-analysis of SGA/IUGR and BPD36. E: Meta-analysis of SGA/IUGR and severe BPD. F: Meta-analysis of SGA/IUGR and BPD or death. G: Meta-analysis of HDP and BPD-associated pulmonary hypertension. H: Meta-analysis of SGA/IUGR and BPD-associated pulmonary hypertension.

Supplementary Table 1. Characteristics of the included studies

First author, year	Country	Design	Prospective?	Total infants	Centers	GA of cohort (weeks)	Independent variable	Exposures	Outcomes (% of incidence in total group)	NOS Selection	NOS Comparability	NOS Outcome/Exposure	NOS Total
Abramovici, 1999 [6]	USA	cohort	no	2524	1	<36	Exposure	PE-HELLP	BPD28 (64)	3	1	3	7
Altman, 2011 [7]	Sweden	Cohort	yes	6674	Network	33.1	Exposure	BW<P3	BPD36 (1)	4	1	3	8
Ameenudeen, 2007 [8]	Malaysia	Cohort	yes	244	1	29.7	Outcome	Any HDP BW<P10	BPD36 (15)	4	2	3	9
Amin, 1997 [9]	Canada	Ca-Co	no	186	1	28.3	Exposure	BW<P3	BPD28 (54)	4	1	3	8
An, 2010 [10]	Korea	Cohort	no	116	1	26.3	Outcome	BW<P10	BPD-PH (25)	4	1	3	8
Aswani, 2016 [11]	USA	Cohort	No	230	1	25.9	Outcome	BW<P10	BPD-PH (8)	4	1	3	8
Aucott, 2004 [12]	USA	Ca-Co	no	95	1	28.4	Exposure	BW<P5	BPD36 (21)	4	1	3	8
Baer, 2016 [13]	USA	Cohort	no	78647	Network	33.0	Exposure	BW<P10	BPD36 (2)	4	1	3	8
Baker, 2012 [14]	USA	cohort	yes	62	1	31.6	Outcome	PE BW<P10	BPD36 (21)	4	1	3	8
Balena, 2017 [15]	USA	cohort	yes	113	1	27.9	Outcome	Any HDP	BPD/Death (36)	4	2	3	9
Bardin, 1997 [16]	Canada	Cohort	yes	115	1	25.3	Exposure	BW<P3	BPD28 (86) BPD36 (37)	3	1	3	7
Bhat, 2012 [17]	USA	Cohort	yes	145	1	26	Outcome	BW<P10	BPD-PH (18)	4	2	3	9
Blanca, 2018 [18]	The Netherlands	Cohort	yes	69	1	25.6	Outcome	PE	BPD-PH (12)	3	1	3	7
Bose, 2009 [19]	USA	Cohort	yes	1241	14	<28	Outcome	PE BW<P3	BPD36 (52)	4	2	3	9
Bose, 2011 [20]	USA	Cohort	yes	932	14	<28	Outcome	BW<P3	BPD28 (52) sBPD (11)	4	2	3	9
Bossung, 2020 [21]	Germany	Cohort	yes	16035	62	28.2	Exposure	PE-HELLP	BPD36 (15)	4	2	3	9
Botet, 2012 [22]	Spain	Cohort	no	415	1	27.0	Outcome	BW<P10	BPD/Death (28)	4	2	3	9
Bozzetti, 2013 [23]	Italy	Cohort	yes	310	1	29.7	Exposure	BW<P10	BPD28 (9)	4	2	3	9

First author, year	Country	Design	Prospective?	Total infants	Centers	GA of cohort (weeks)	Independent variable	Exposures	Outcomes (% of incidence in total group)	NOS Selection	NOS Comparability	NOS Outcome/Exposure	NOS Total
Brener, 2017 [24]	Argentina	Cohort	no	203	1	29.4	Outcome	BW<P3	BPD36 (22)	4	2	3	9
Brumbaugh, 2018 [25]	USA	Cohort	no	151	1	26.6	Outcome	BW<P10	BPD36 (83) sBPD (55)	4	2	3	9
Brumbaugh, 2020 [26]	USA	Cohort	yes	2310	Network	24.9	Outcome	BW<P10	BPD36 (48) sBPD (5)	4	2	3	9
Bruno, 2015 [27]	USA	Cohort	no	303	1	26.6	Outcome	PE BW<P10	BPD-PH (12)	4	2	3	9
Burns, 1997 [28]	Australia	Ca-Co	no	117	5	28.2	Outcome	BW<P10	BPD28 (55)	4	2	3	9
Bursal, 2017 [29]	Turkey	cohort	no	284	1	31.2	Exposure	PE	BPD28 (10)	2	1	3	7
Candel, 2016 [30]	Spain	Ca-Co	yes	129	1	33.8	Exposure	IUGR	BPD36 (13)	4	1	3	8
Cartón, 2016 [31]	Spain	Cohort	yes	84	1	27.0	Outcome	Any HDP BW<P10	BPD-PH (26)	4	2	3	9
Cederqvist, 2003 [32]	Finland	cohort	yes	32	1	27.8	Outcome	PE	BPD36 (56)	4	1	3	8
Çetinkaya, 2010 [33]	Turkey	Ca-Co	no	84	1	31.3	Exposure	PE	BPD36 (23)	2	1	3	6
Charafeddine, 1999 [34]	USA	Cohort	yes	123	1	27.8	Outcome	BW<P10	BPD28 (72)	4	2	3	9
Check, 2013 [35]	USA	Cohort	no	138	1	26.1	Outcome	PE BW<P10	BPD-PH (28)	3	1	3	7
Chen, 2020 [36]	USA	Cohort	yes	188	1	26.7	Outcome	BW<P10	BPD-PH (32)	4	2	3	9
Chen, 2016 [37]	Switzerland	Cohort	yes	8899	Network	29.2	Outcome	BW<P10	BPD36 (10)	4	2	3	9
Cheng, 2004 [38]	Taiwan	Ca-Co	no	89	1	28.3	Exposure	PE	BPD28 (36)	4	1	2	7
Choi, 2015 [39]	Korea	Cohort	no	194	1	26.5	Outcome	BW<P10	BPD-PH (26)	4	1	3	8
Choi, 2019 [40]	Korea	Cohort	no	81	1	25.7	Outcome	PE	BPD-PH (25)	4	1	3	8
Chye, 1995 [41]	Australia	Ca-Co	yes	156	1	28.4	Outcome	BW<P10	BPD28 (50)	4	1	3	8
Claas, 2011 [42]	The Netherlands	Cohort	no	101	1	28.0	Exposure	BW<P3	BPD36 (56)	4	1	3	8

First author, year	Country	Design	Prospective?	Total infants	Centers	GA of cohort (weeks)	Independent variable	Exposures	Outcomes (% of incidence in total group)	NOS Selection	NOS Comparability	NOS Outcome/Exposure	NOS Total
Cunha, 2005 [43]	Brazil	cohort	yes	86	1	28.9	Outcome	Any HDP	BPD28 (52)	4	1	3	8
Da Silva, 2018 [44]	Brazil	Cohort	yes	67	3	29.1	Outcome	Any HDP	BPD36 (33)	4	2	3	9
Dasgupta, 2018 [45]	USA	Cohort	yes	52	1	26.6	Outcome	Any HDP	BPD36 (69) BPD-PH (15)	4	2	3	9
De Jesus, 2013 [46]	USA	Cohort	no	2971	Network	25.0	Exposure	BW<P10	BPD36 (36)	4	2	3	9
De Souza, 2015 [47]	Brazil	Ca-Co	yes	60	1	30.0	Exposure	PE	BPD36 (10)	4	2	3	9
Demirel, 2009 [48]	Turkey	Ca-Co	yes	106	1	30.4	Outcome	PE-HELLP	BPD28 (53)	4	2	3	9
DeVries, 2017 [49]	USA	Cohort	no	577	1	26.6	Outcome	BW<P10	BPD-PH (3)	4	2	2	8
Dogan, 2020 [50]	Turkey	Cohort	no	78	1	28.6	Outcome	PE	BPD36 (41)	4	1	3	8
Duan, 2016 [51]	China	Cohort	yes	243	1	30.0	Outcome	Any HDP	BPD28 (29)	4	2	3	9
Duan, 2016b [52]	China	Cohort	yes	147	1	29.5	Outcome	Any HDP BW<P10	BPD36 (41)	4	2	3	9
Durrmeyer, 2012 [53]	France	Cohort	yes	265	1	26.0	Outcome	BW<P3	BPD36 (15) BPD/Death (25)	4	1	3	8
El Ayoub, 2016 [54]	Europe	Cohort	yes	4585	Network	28.0	Exposure	IUGR	BPD36 (14)	4	2	3	9
Enginner, 2010 [55]	UK	Ca-Co	no	121	1	<36	Exposure	IUGR	BPD28 (29)	4	1	3	8
Eriksson, 2015 [56]	Sweden	Ca-Co	no	2255	Network	30.0	Outcome	Any HDP BW<P10	BPD36 (24)	4	2	3	9
Estevez, 2017 [57]	Spain	Cohort	no	110	1	29.2	Exposure	BW<P10	BPD36 (5)	4	1	3	8
EXPRESS group, 2010 [58]	Sweden	Cohort	yes	497	Network	25.0	Outcome	PE BW<P3	sBPD (25)	4	2	3	9
Falciglia, 2003 [59]	USA	Cohort	yes	46	1	29.5	Exposure	PE	BPD36 (50)	3	2	3	8
Fernandez-Rodriguez, 2021 [60]	Spain	Cohort	no	95	1	31.4	Exposure	IUGR	BPD36 (9)	3	2	3	8
Fujioka, 2014 [61]	Japan	Cohort	no	97	1	28.0	Outcome	Any HDP	BPD36 (57)	4	1	3	8

First author, year	Country	Design	Prospective?	Total infants	Centers	GA of cohort (weeks)	Independent variable	Exposures	Outcomes (% of incidence in total group)	NOS Selection	NOS Comparability	NOS Outcome/Exposure	NOS Total
								BW<P10					
Gagliardi, 2009 [62]	Italy	Cohort	yes	1209	14	28.7	Outcome	BW<P10	BPD36 (16)	4	2	3	9
Gagliardi, 2013 [63]	Italy	Cohort	yes	2085	Network	28.7	Exposure	Any HDP	BPD36 (13)	4	2	3	9
Gagliardi, 2014 [64]	Italy	Cohort	no	3606	82	27.2	Exposure	Any HDP	BPD36 (25)	4	2	3	9
Garite, 2004 [65]	USA	Cohort	no	24249	124	29.9	Exposure	IUGR	BPD28 (18)	3	2	3	8
Garofoli, 2014 [66]	Italy	Cohort	no	76	1	31.7	Exposure	BW<P10	BPD36 (9)	4	1	3	8
Gemmell, 2016 [67]	International	Cohort	no	27846	Network	26.5	Exposure	PE	BPD36 (35)	4	2	3	9
Giapros, 2012 [68]	Greece	Cohort	no	168	1	28.5	Exposure	BW<P10	BPD36 (35)	4	2	3	9
Gortner, 1999 [69]	Germany	Cohort	yes	317	6	29.6	Exposure	BW<P10	BPD36 (6)	4	1	3	8
Gortner, 2003 [70]	Germany	Ca-Co	yes	148	1	34.0	Exposure	BW<P10	BPD28 (6)	4	0	3	7
Gray, 1997 [71]	Australia	Cohort	yes	189	1	27.3	Exposure	PE	BPD28 (49)	4	2	3	9
Greenough, 2005 [72]	UK	Ca-Co	yes	34	1	28.5	Outcome	BW<P10	BPD28 (50)	4	2	3	9
Grisaru-G, 2012 [73]	Israel	Cohort	yes	9756	Network	28.5	Exposure	BW<P3	BPD36 (15)	4	2	3	9
Guimaraes, 2010 [77]	Portugal	Cohort	yes	256	5	28.0	Outcome	BW<P10	BPD36 (18)	4	1	3	8
Guo, 2015 [75]	Taiwan	Cohort	no	75	1	27.6	Outcome	Any HDP BW<P10	sBPD (63)	4	1	3	8
Gursoy, 2015 [76]	Turkey	Cohort	no	652	1	29.4	Outcome	PE BW<P10	BPD28 (23)	4	2	3	9
Hadchouel, 2020 [77]	France	Ca-Co	no	19	3	26.7	Outcome	BW<P10	sBPD (58)	3	1	3	7
Hansen, 2010 [78]	UK	Cohort	yes	107	1	29.0	Outcome	PE	BPD36 (25)	4	2	3	9
Hartung, 2005 [79]	Germany	Ca-Co	no	88	1	31.0	Exposure	IUGR	BPD36 (9)	4	1	3	8
Hentges, 2015 [80]	Brazil	Cohort	yes	88	1	30.1	Exposure	PE	BPD28 (26)	4	2	3	9
Hernandez, 2004 [81]	Mexico	Ca-Co	yes	44	1	31.1	Outcome	Any HDP	BPD28 (50)	4	1	3	8

First author, year	Country	Design	Prospective?	Total infants	Centers	GA of cohort (weeks)	Independent variable	Exposures	Outcomes (% of incidence in total group)	NOS Selection	NOS Comparability	NOS Outcome/Exposure	NOS Total
Hiett, 2001 [82]	USA	Ca-Co	no	116	2	27.1	Exposure	PE	BPD28 (60)	4	2	3	9
Hikino, 2012 [83]	Japan	Cohort	yes	26	1	29.0	Outcome	BW<P10	BPD36 (50)	4	1	3	8
Huusko, 2015 [84]	Finland, Canada en Hungary	Ca-Co	yes	772	8	27.8	Outcome	BW<P3	BPD36 (28)	4	2	3	9
Imamura, 2017 [85]	Japan	Cohort	no	169	1	26.0	Outcome	BW<P10	sBPD (40)	4	2	3	9
Iwatani, 2013 [86]	Japan	Cohort	no	51	1	25.7	Outcome	Any HDP	BPD36 (51)	4	2	3	9
Jakuskiene, 2011 [87]	Lithuania	Cohort	yes	238	1	27.4	Outcome	BW<P10	BPD36 (6)	4	1	3	8
Jensen, 2019 [88]	USA	Cohort	no	6708	Network	28.6	Exposure	BW<P10	BPD36 (29) BPD/Death (35)	4	1	3	8
Jeon, 2020 [89]	Korea	Cohort	yes	521	1	27.4	Outcome	Any HDP	BPD36 (48)	4	1	3	8
Jo, 2015 [90]	Korea	Cohort	no	2386	55	29.0	Outcome	Any HDP	BPD36 (32)	4	2	3	9
Kalra, 2014 [91]	USA	Ca-Co	yes	60	2	27.0	Outcome	BW<P10	BPD36 (55)	4	1	3	8
Kanaan, 2018 [92]	USA	Cohort	no	1340	1	27.8	Outcome	Any HDP BW<P10	BPD-PH (12)	4	2	3	9
Kandasamy, 2015 [93]	USA	Cohort	yes	152	1	25.2	Outcome	BW<P10	BPD/Death (23)	4	1	3	8
Karagianni, 2011 [94]	Greece	Cohort	yes	219	1	29.1	Outcome	BW<P10	BPD36 (28)	4	1	3	8
Karagianni, 2013 [95]	Greece	Ca-Co	yes	61	1	32.0	Outcome	BW<P10	BPD36 (46)	4	1	3	8
Khan, 2006 [96]	USA	Cohort	no	306	2	26.7	Outcome	PE	BPD36 (45)	4	2	3	9
Khan, 2020 [97]	USA	Cohort	yes	68	1	27.0	Outcome	PE BW<P10	BPD36 (65)	4	2	3	9
Khemani, 2007 [98]	USA	Cohort	no	42	3	26.0	Outcome	BW<P3	BPD-PH (43)	3	1	3	7
Kim, 2014 [99]	Korea	Ca-Co	no	56	1	26.1	Outcome	PE BW<P3	sBPD (66) BPD-PH (27)	4	1	3	8

First author, year	Country	Design	Prospective?	Total infants	Centers	GA of cohort (weeks)	Independent variable	Exposures	Outcomes (% of incidence in total group)	NOS Selection	NOS Comparability	NOS Outcome/Exposure	NOS Total
Kim, 1996 [100]	USA	Ca-Co	no	117	1	28	Exposure	Any HDP	BPD28 (48) BPD36 (15)	3	1	3	7
Kim, 2018 [101]	Korea	cohort	no	199	1	28.9	Exposure	PE	BPD36 (31)	4	2	3	9
Kim, 2020 [102]	Korea	Cohort	no	117	1	28.8	Outcome	BW<P10	BPD28 (91) sBPD (18)	3	1	3	7
Klinger, 2013 [103]	Isreal	Cohort	yes	12139	28	29.0	Outcome	Any HDP BW<P10	BPD36 (14)	4	2	3	9
Köksal, 2012 [104]	Turkey	Cohort	yes	102	1	28.6	Outcome	PE	BPD28 (30)	4	1	3	8
Korhonen, 2004 [105]	Finland	Cohort	yes	68	1	27.5	Outcome	BW<P3	BPD36 (50)	4	1	2	7
Koroglu, 2013 [106]	Turkey	Ca-Co	yes	41	1	28.9	Outcome	PE	BPD28 (43)	3	2	3	8
Kunjunju, 2017 [107]	Australia	Cohort	no	56	1	26.0	Outcome	PE	BPD-PH (39)	3	1	3	7
Lagatta, 2018 [108]	USA	Cohort	No	1677	23	25.0	Outcome	Any HDP BW<P10	BPD-PH (22)	3	2	3	8
Lal, 2003 [109]	UK	Cohort	yes	2838	Network	29.9	Outcome	BW<P10	BPD28 (23) BPD36 (14) BPD/Death (23)	4	1	3	8
Lapcharoensap, 2015 [110]	USA	Cohort	no	15052	132	27.0	Outcome	Any HDP IUGR	BPD/Death (47)	4	2	3	9
Lardon-Fdz, 2017 [111]	Spain	Cohort	no	129	1	28.7	Outcome	PE BW<P3	BPD28 (47) BPD36 (19) sBPD (7)	3	1	3	7
Lehtinen, 2017 [112]	Finland	Cohort	yes	53	1	29.0	Outcome	BW<P3	BPD36 (40)	4	2	3	9
Leroy, 2018 [113]	Canada	Cohort	yes	62	1	27.0	Outcome	BW<P10	BPD36 (52)	4	1	3	8
Li, 2013 [114]	China	Cohort	yes	160	1	30.9	Outcome	PE BW<P10	BPD/Death (36)	4	2	3	9
Lin, 2005 [115]	Taiwan	Ca-Co	yes	224	1	26.7	Outcome	BW<P3	BPD36 (50)	4	1	3	8

First author, year	Country	Design	Prospective?	Total infants	Centers	GA of cohort (weeks)	Independent variable	Exposures	Outcomes (% of incidence in total group)	NOS Selection	NOS Comparability	NOS Outcome/Exposure	NOS Total
Lodha, 2014 [116]	Canada	Cohort	yes	586	1	28.5	Outcome	BW<P10	BPD36 (25)	4	1	2	7
Löfqvist, 2012 [117]	Sweden	Cohort	yes	108	2	27.2	Outcome	PE BW<P3	BPD36 (54)	4	2	3	9
Lohmann, 2014 [118]	USA	Cohort	yes	22	1	27.2	Outcome	Any HDP	BPD36 (45)	4	1	3	8
MacKenzie, 2020 [119]	Canada	Cohort	No	87	1	25.9	Outcome	Any HDP	BPD-PH (28)	3	1	3	7
Madoglio, 2016 [120]	Brazil	Cohort	yes	73	1	28.7	Exposure	PE	BPD28 (36) BPD36 (18) BPD/Death (46)	3	1	3	7
Mahlman, 2017 [121]	Finland	Ca-Co	yes	174	5	27.4	Outcome	PE BW<P3	BPD 36 (34)	4	1	3	8
Malavolti, 2018 [122]	Switzerland	Cohort	no	610	1	27.9	Outcome	BW<P10	BPD28 (59)	4	2	3	9
Mao, 2018 [124]	China	Ca-Co	yes	39	1	29.6	Outcome	PE BW<P10	BPD36 (49)	4	1	3	8
Marshall, 1999 [124]	USA	Cohort	yes	865	13	28.9	Outcome	PE	BPD36 (26)	3	2	3	8
Matic, 2017 [125]	Australia and UK	Cohort	no	2549	10	26.7	Exposure	Any HDP	BPD36 (30)	4	2	3	9
May, 2009 [126]	UK	Cohort	yes	80	1	28.0	Outcome	BW<P10	BPD28 (58) BPD36 (39) sBPD (16)	4	1	3	8
McGowan, 2009 [127]	USA	Ca-Co	no	98	1	26.3	Outcome	PE BW<P10	BPD36 (50)	4	2	3	9
Melamed, 2016 [128]	Canada	Cohort	no	6567	Network	29.8	Exposure	BW<P10	BPD36 (12)	4	2	3	9
Mello, 2017 [129]	Brasil	Cohort	yes	112	1	29.5	Outcome	BW<P10	BPD28 (44)	4	2	2	8
Méndez-Abad, 2020 [130]	Spain	Cohort	yes	101	1	29.0	Outcome	BW<P10	BPD36 (15)	4	1	3	8
Mohamed, 2015 [131]	Canada	Cohort	yes	99	1	26.4	Outcome	PE BW<P10	BPD36 (66)	4	1	3	8

First author, year	Country	Design	Prospective?	Total infants	Centers	GA of cohort (weeks)	Independent variable	Exposures	Outcomes (% of incidence in total group)	NOS Selection	NOS Comparability	NOS Outcome/Exposure	NOS Total
Monier, 2017 [132]	France	Cohort	yes	5919	Network	29.0	Exposure	IUGR	BPD36 (48) sBPD (7)	4	2	3	9
Morrow, 2017 [133]	USA	Cohort	yes	587	5	27.0	Outcome	PE BW<P10	BPD36 (41)	4	2	3	9
Morsing, 2012 [134]	Sweden	Ca-Co	yes	62	1	27.0	Exposure	IUGR	sBPD (50)	3	1	3	7
Mourani, 2015 [135]	USA	Cohort	yes	277	2	27.0	Outcome	PE BW<P10	BPD-PH (14)	4	1	3	8
Naeem, 2020 [136]	USA	Cohort	yes	26	N	26.1	Outcome	Any HDP	BPD36 (72) BPD-PH (17)	4	1	3	8
Nascimento, 2020 [137]	UK	Cohort	yes	40	1	28.0	Outcome	BW<P10	BPD36 (53)	4	1	3	8
Natarajan, 2012 [138]	USA	Cohort	yes	1159	Network	25.7	Outcome	BW<P10	BPD36 (13)	4	2	3	9
Naveda, 2016 [139]	Venezuela	Ca-Co	yes	144	1	33.0	Outcome	Any HDP	BPD28 (25)	3	2	3	8
Newman, 2011 [140]	USA	Cohort	no	156	1	28.6	Outcome	Any HDP BW<P10	BPD28 (51) sBPD (31)	4	2	3	9
Nobile, 2017 [141]	Italy	Cohort	no	515	1	28.0	Exposure	IUGR BW<P10	BPD36 (22) BPD/Death (38)	4	2	3	9
Novitsky, 2015 [142]	USA	Cohort	no	906	1	28.2	Outcome	PE	BPD36 (20)	3	2	3	8
O'Shea, 2012 [143]	Australia	Cohort	no	751	Network	26.6	Outcome	PE BW<P3	BPD36 (44)	4	2	3	9
Oh, 2005 [144]	USA	Cohort	no	1382	Network	26.0	Outcome	Any HDP	BPD/Death (58)	4	2	3	9
Ozkan, 2012 [145]	Turkey	Cohort	yes	332	1	29.2	Exposure	PE	BPD28 (26) BPD36 (14) sBPD (8)	4	2	3	9
Palta, 1996 [146]	USA	Cohort	no	632	7	28.7	Exposure	PE-HELLP	BPD28 (24)	3	1	3	7
Park, 2012 [147]	Korea	Cohort	no	191	1	29.4	Exposure	Any HDP	BPD28 (36) BPD36 (29)	4	1	3	8

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Patel, 2017 [148]	USA	Cohort	yes	254	1	27.9	Outcome	BW<P10	BPD36 (30)	4	2	3	9
Qi, 2013 [149]	China	Cohort	yes	60	1	29.5	Outcome	Any HDP BW<P10	BPD36 (42)	4	1	3	8
Qiu, 2012 [150]	Canada	Cohort	no	11909	Network	28.8	Exposure	BW<P10	BPD36 (21) BPD/Death (30)	4	2	3	9
Ra, 2013 [151]	Korea	Cohort	no	85	1	28.0	Outcome	Any HDP	BPD-PH (21)	3	1	3	7
Rakza, 2007 [152]	France	Cohort	yes	48	1	29.1	Exposure	IUGR	BPD36 (21) BPD/Death (29)	4	1	3	8
Ranke, 2007 [153]	Germany	Cohort	yes	97	1	29.0	Exposure	BW<P10	BPD36 (39)	4	1	2	7
Razak 2020[154]	Canada	Ca-Co	no	237	1	29.2	Exposure	Any HDP	BPD36 (20)	4	2	3	9
Redline, 2002 [155]	USA	cohort	no	371	1	27.6	Outcome	PE	BPD36 (30)	4	1	3	8
Regev, 2015 [156]	Israel	cohort	yes	2139	28	29.7	Exposure	Any HDP	BPD36 (12)	4	1	3	8
Regev, 2003 [157]	Israel	Cohort	yes	2764	Network	27.9	Exposure	BW<P3	BPD36 (22) BPD/Death (43)	4	2	3	9
Reiss, 2003 [158]	Germany	Cohort	yes	1365	1	28.8	Exposure	BW<P10	BPD36 (14)	4	2	3	9
Rijken, 2007 [159]	The Netherlands	Cohort	yes	158	1	28.8	Exposure	BW<P10	BPD36 (22)	4	2	3	9
Rocha, 2018 [160]	Portugal	Cohort	yes	494	11	27.3	Exposure	Any HDP	BPD36 (24)	4	2	3	9
Rocha, 2010 [161]	Portugal	Cohort	yes	205	1	29.0	Outcome	BW<P10	BPD36 (22)	4	1	3	8
Rojas, 2012 [162]	Colombia	Ca-Co	no	212	8	29.2	Outcome	BW<P10	BPD36 (30)	4	2	3	9
Ruiz-Pelaez, 2014 [163]	Colombia	Cohort	yes	416	12	31.9	Outcome	BW<P10	BPD28 (54) BPD36 (17)	3	1	3	7
Sasi, 2015 [164]	Australia	Cohort	no	459	1	28.7	Exposure	IUGR	BPD36 (27) BPD/Death (30)	4	1	3	8
Schena, 2015 [165]	Italy	Cohort	no	242	1	26.3	Outcome	BW<P10	BPD/Death (43)	4	1	3	8

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Schiff, 1993 [166]	USA	Ca-Co	yes	138	1	33.8	Exposure	PE-HELLP	BPD28 (1)	4	2	3	9
Schlapbach, 2010 [167]	Switzerland	Ca-Co	yes	99	1	29.3	Exposure	PE	BPD36 (14)	4	1	3	8
Seo, 2020 [168]	Korea	Cohort	no	81	1	26.4	Outcome	Any HDP BW<P10	BPD-PH (30)	4	1	2	7
Serenius, 2004 [169]	Sweden	Cohort	no	140	2	24.2	Outcome	BW<P3	BPD36 (36)	4	2	3	9
Sharma, 2004 [170]	USA	Cohort	no	2364	1	31.2	Exposure	BW<P10	BPD28 (?) BPD36 (?)	4	1	3	8
Sheth, 2020 [171]	USA	Ca-Co	no	220	1	25.9	Outcome	PE BW<P10	BPD-PH (27)	4	2	3	9
Shima, 2013 [172]	Japan	Cohort	no	306	1	29.0	Outcome	Any HDP BW<P10	BPD28 (42) BPD36 (17)	3	1	3	7
Shin, 2020 [173]	Korea	Cohort	yes	1827	Network	27.4	Exposure	Any HDP	BPD36 (42)	4	2	3	9
Silveira, 2007 [174]	Brazil	Cohort	yes	86	1	30.9	Exposure	PE	BPD36 (14)	3	1	3	7
Soliman, 2017 [175]	Canada	Cohort	yes	319	1	28.8	Exposure	PE-HELLP BW<P10	BPD28 (39) BPD36 (25)	4	1	3	8
Somaschini, 2012 [176]	Italy	Cohort	no	366	12	28.5	Outcome	Any HDP BW<P10	BPD 28 (39) BPD 36 (21) sBPD (10)	3	1	3	7
Soudee, 2014 [177]	France	Ca-Co	no	293	1	28.5	Exposure	BW<P3	BPD28 (57) BPD36 (24) BPD/Death (37)	4	2	3	9
Spiegler, 2013 [178]	Germany	Cohort	no	1577	28	29.2	Exposure	PE	BPD36 (12)	3	1	3	7
Starr, 2020 [179]	USA	Cohort	no	546	24	27.9	Outcome	Any HDP BW<P10	BPD/Death (45)	4	2	3	9
Streubel, 2008 [180]	USA	Cohort	yes	133	1	26.6	Outcome	BW<P10	BPD36 (29)	4	1	3	8
Sun, 2019 [181]	China	Cohort	no	296	1	30.0	Outcome	Any HDP BW<P10	BPD28 (49)	4	1	3	8

First author, year	Country	Design	Prospective?	Total infants	Centers	GA of cohort (weeks)	Independent variable	Exposures	Outcomes (% of incidence in total group)	NOS Selection	NOS Comparability	NOS Outcome/Exposure	NOS Total
Tammela, 1992 [182]	Finland	Cohort	yes	46	1	31.7	Outcome	BW<P3	BPD36 (50)	4	1	3	8
Teberg, 1991 [183]	USA	Cohort	yes	236	1	30.4	Outcome	Any HDP BW<P10	BPD28 (25)	4	2	3	9
Todd, 1997 [184]	Australia	Ca-Co	yes	296	1	28.0	Outcome	Any HDP	BPD36 (50)	3	1	3	7
Tokumasu, 2016 [185]	Japan	Cohort	no	4518	79	26.1	Exposure	PE-HELLP	BPD36 (25)	4	1	3	8
Torchin, 2016 [186]	France	Cohort	yes	2638	?	29.7	Exposure	Any HDP IUGR	BPD36 (10)	4	1	3	8
Torrance, 2007 [187]	Netherlands	Cohort	no	187	1	30.4	Exposure	Any HDP	BPD28 (23)	4	2	3	9
Tsai, 2015 [188]	Taiwan	Cohort	yes	1680	21	28.3	Exposure	BW<P10	BPD36 (32) BPD/Death (47)	4	2	3	9
Turunen, 2011 [189]	Finland	Ca-Co	yes	46	1	26.9	Exposure	PE	BPD36 (70)	4	2	3	9
Uberos, 2020 [190]	Spain	Cohort	no	389	1	29.0	Outcome	Any HDP BW<P10	BPD36 (41)	4	2	3	9
Van Mastright , 2018 [191]	The Netherlands	Cohort	yes	111	1	28.0	Outcome	PE	BPD/Death (40)	4	2	3	9
Vayalthrikkovil, 2019 [192]	Canada	Cohort	Yes	126	1	26.2	Outcome	Any HDP BW<P10	BPD-PH (19)	3	1	3	7
Viscardi, 2004 [193]	USA	Cohort	yes	262	2	28.0	Outcome	PE BW<P10	BPD28 (58)	4	2	3	9
Vrlenich, 1995 [194]	USA	Cohort	yes	406	10	30.3	Outcome	BW<P3	BPD36 (23)	4	1	2	7
Wadhawan, 2007 [195]	USA	Cohort	no	9461	19	26.0	Exposure	BW<P10	BPD36 (42) BPD/Death (55)	4	1	3	8
Wang, 2014 [196]	China	Cohort	yes	73	1	30.5	Outcome	Any HDP	BPD28 (33)	3	1	3	7
Wang, 2018 [197]	China	Cohort	no	191	1	28.2	Outcome	Any HDP BW<P3	BPD-PH (19)	3	1	3	7
Wang, 2013 [198]	USA	Ca-Co	no	1649	Network	27.0	Outcome	IUGR	BPD36 (52)	4	2	3	9

First author, year	Country	Design	Prospective?	Total infants	Centers	GA of cohort (weeks)	Independent variable	Exposures	Outcomes (% of incidence in total group)	NOS Selection	NOS Comparability	NOS Outcome/Exposure	NOS Total
Wang, 2010 [199]	Taiwan	Cohort	yes	72	2	28.3	Outcome	BW<P10	BPD28 (78) BPD36 (52) sBPD (36)	4	2	3	9
Weismann, 2017 [200]	USA	Cohort	yes	159	1	25.6	Outcome	Any HDP BW<P10	BPD-PH (28)	4	2	3	9
Wemhöner, 2011 [201]	Austria	Cohort	no	95	1	27.7	Outcome	BW<P10	BPD36	4	1	3	8
Westby Wold, 2009 [202]	Norway	Cohort	no	365	15	26.0	Exposure	BW<P5	BPD36 (40) BPD/Death (60)	4	1	3	8
Wilmink 2019 [203]	The Netherlands	Cohort	no	273	1	29.3	Exposure	PE	BPD28 (24) BPD36 (11) BPD/Death (19)	4	2	3	9
Wirbelauer, 2010 [204]	Germany	Cohort	yes	49	1	27.7	Exposure	BW<P10	BPD28 (29)	4	1	3	8
Withagen, 2001 [205]	Netherlands	Ca-Co	no	666	1	30.7	Exposure	PE-HELLP	BPD28 (13)	4	2	3	9
Wocadlo, 1994 [206]	Australia	Cohort	yes	36	1	27.6	Exposure	BW<P10	BPD28 (50)	4	1	2	7
Won Choi, 2006 [207]	Korea	Cohort	yes	75	1	28.5	Outcome	Any HDP	BPD36 (35)	3	1	3	7
Xu, 2016 [208]	China	Cohort	no	42	1	28.0	Outcome	BW<P10	BPD36 (76) sBPD (36)	3	1	3	7
Xydis, 2013 [209]	Greece	Cohort	yes	205	1	32.9	Exposure	BW<P3	BPD36 (59)	4	2	3	9
Yallapragada, 2016 [210]	USA	Ca-Co	yes	14	1	26.2	Outcome	PE BW<P10	BPD-PH (50)	4	1	3	8
Yen, 2013 [211]	Taiwan	Cohort	no	5753	21	30.0	Exposure	PE	BPD36 (35)	3	1	3	7
Yilmaz, 2017 [212]	Turkey	Cohort	yes	40	1	30.2	Outcome	PE BW<P10	BPD28 (35)	4	1	3	8
Yoon, 1999 [213]	Korea	Cohort	yes	203	1	31.0	Outcome	BW<P10	BPD28 (17)	4	2	3	9
Yu, 2011 [214]	Korea	Cohort	no	415	1	26.2	Exposure	BW<P3	BPD36 (37)	4	2	3	9
Zanardo, 2002 [215]	Italy	Ca-Co	no	100	1	27.7	Outcome	BW<P10	BPD28 (50)	3	1	3	7

First author, year	Country	Design	Prospective?	Total infants	Centers	GA of cohort (weeks)	Independent variable	Exposures	Outcomes (% of incidence in total group)	NOS Selection	NOS Comparability	NOS Outcome/Exposure	NOS Total
Zhang, 2011 [216]	China	cohort	no	116	1	30.2	Outcome	Any HDP BW<P10	BPD28 (48)	3	1	3	7

BPD28: BPD defined as oxygen requirement on postnatal day 28; BPD36: defined as oxygen requirement at the postmenstrual age of 36 weeks; BPD-PH: BPD-associated pulmonary hypertension; BW: birth weight; HDP: hypertensive disorders of pregnancy; IUGR: intrauterine growth restriction (defined on the basis of fetal growth assessment); NOS: Newcastle Ottawa Scale; P3: 3rd percentile; P5: 5th percentile; P10: 10th percentile; PE: preeclampsia; sBPD: severe BPD (⩾ 30% oxygen or mechanical ventilation at the postmenstrual age of 36 weeks); SGA: small for gestational age. The number in parentheses after the outcome indicates the outcome rate in the study.

Supplementary Table 2. Meta-regression analysis (continuous covariates)

Association	Covariate	Covariate unit	K	Coefficient	95% CI		P	R^2 analog
					Lower limit	Upper limit		
HDP and BPD36	MD in GA (exposed minus unexposed)	week	24	-0.500	-0.651	-0.349	<0.001	0.95
	GA total cohort (weeks)	week	55	-0.077	-0.197	0.043	0.112	0.29
	Male sex (logOR)	logOR	20	0.190	-0.670	1.050	0.665	0.00
	ACS (logOR)	logOR	17	-0.148	-0.578	0.282	0.501	0.00
	RDS (logOR)	logOR	12	0.266	-0.185	0.716	0.248	0.00
	Median year of cohort	year	60	0.008	-0.018	0.035	0.426	0.00
SGA/IUGR and BPD36	MD in GA (exposed minus unexposed)	week	35	-0.311	-0.571	-0.051	0.002	0.08
	GA total cohort	week	91	-0.039	-0.133	0.056	0.295	0.00
	Male sex (logOR)	logOR	21	-0.222	-1.374	0.930	0.705	0.02
	ACS (logOR)	logOR	18	-0.371	-0.742	0.000	0.050	0.08
	RDS (logOR)	logOR	16	0.354	-0.288	0.997	0.280	0.00
	Median year of cohort	year	89	0.021	-0.001	0.042	0.056	0.01

Random effects (method of moments), univariate meta-regression. Coefficient indicates the change in the log of the OR of the association between BPD36 and the corresponding exposure for a unit change in the predictor covariate. R^2 analog: total between-study variance explained by the moderator. ACS: antenatal corticosteroids; BPD36: bronchopulmonary dysplasia defined as oxygen requirement at the postmenstrual age of 36 weeks; BW: birth weight; CI: confidence interval; GA: gestational age; HDP: hypertensive disorders of pregnancy; IUGR: intrauterine growth restriction (defined on the basis of fetal growth assessment); K: number of studies; OR: odds ratio; SGA: small for gestational age.

Supplementary table 3. Meta-analyses on the association between SGA/IUGR and HDP

Meta-analysis	Subgroup	K	OR	95% CI		P	Heterogeneity	
				Lower limit	Upper limit		I^2 (%)	P
Exposure: SGA/IUGR Outcome: HDP	BW<P10	12	5.00	3.96	6.31	<0.001	87.1	<0.001
	BW<P5	2	8.31	4.53	15.23	<0.001	0.0	0.645
	BW<P3 or -2SD	3	6.78	4.29	10.70	<0.001	0.0	0.670
	IUGR	4	5.71	4.23	7.71	<0.001	73.4	0.010
	SGA/IUGR overall	**21**	**5.62**	**4.77**	**6.62**	**<0.001**	**80.0**	**<0.001**
Exposure: HDP Outcome: SGA/IUGR	Any HDP	3	6.22	2.32	13.79	<0.001	80.3	0.006
	Preeclampsia	16	4.06	2.65	6.22	<0.001	98.0	<0.001
	Preeclampsia -HELLP	3	11.07	3.84	31.94	<0.001	91.8	<0.001
	HDP overall	**22**	**4.86**	**3.36**	**7.01**	**<0.001**	**97.6**	**<0.001**

Mixed effects analysis. A random effects model is used to combine studies within each subgroup. A fixed effect model is used to combine subgroups and yield the overall effect. OR>1 indicates association with increased risk of the outcome and OR<1 indicates association with decreased risk of the outcome.
CI: confidence interval; GA: gestational age; HDP: hypertensive disorders of pregnancy; IUGR: intrauterine growth restriction (defined on the basis of fetal growth assessment); K: number of studies; OR: odds ratio; SGA: small for gestational age.

Supplementary table 4. Raw count data of the meta-analysis on the association between HDP and BPD28.

Study Name	BPD28-yes/total		Study Name	BPD28-yes/total	
	HDP-yes	HDP-no		HDP-yes	HDP-no
Abramovici 1999 [6]	21/47	277/419	Naveda 2016 [139]	29/76	7/68
Bursal 2017 [29]	13/140	16/144	Newman 2011 [140]	18/35	62/121
Cheng 2004 [38]	10/28	22/61	Ozkan 2012 [145]	45/117	42/215
Cunha 2005 [43]	11/29	34/57	Palta 1996 [146]	18/121	134/511
Demirel 2009 [48]	1/2	55/104	Park 2012 [147]	11/38	58/153
Duan 2016 [51]	16/48	55/195	Schiff 1993 [166]	2/69	0/69
Gray 1997 [71]	17/26	61/132	Shima 2013 [172]	21/48	109/258
Gursoy 2015 [76]	18/108	132/544	Soliman 2017 [175]	39/102	86/217
Hentges 2015 [80]	6/37	17/51	Sun 2019 [181]	20/48	124/248
Hernandez 2004 [81]	5/11	17/33	Teberg 1991 [183]	3/44	57/189
Hiett 2001 [82]	40/58	30/58	Torrance 2007 [187]	33/120	10/67
Kim 1996 [100]	16/35	34/70	Viscardi 2004 [193]	15/36	136/226
Koksal 2012 [104]	12/36	19/66	Wang 2014 [196]	7/24	17/49
Koroglu 2014 [106]	10/20	37/89	Wilmink 2019 [203]	23/90	36/157
Lardon-F 2017 [111]	21/47	39/82	Withagen 2001 [205]	33/222	51/444
Madoglio 2016-[120]	10/32	16/41	Yilmaz 2017 [212]	4/12	10/28
			Zhang 2011 [216]	14/33	42/83

Supplementary table 5. Raw count data of the meta-analysis on the association between SGA/IUGR and BPD28.

Study Name	BPD28-yes/total		Study Name	BPD28-yes/total	
	SGA/IUGR yes	SGA/IUGR no		SGA/IUGR yes	SGA/IUGR no
Amin 1997 [9]	26/62	74/124	Newman 2011 [140]	8/16	72/140
Bardin 1997 [16]	20/20	79/95	Ruiz-P 2014 [163]	OR 1.09 (95% CI 0.42-3.16)	
Bose 2011 [20]	39/52	447/880	Sharma 2004 [170]	OR 1.09 (95% CI 0.64-1.86)	
Bozzetti 2013 [23]	4/32	25/278	Shima 2013 [172]	23 /48	107/258
Burns 1997 [28]	5/12	59/105	Somaschini 2012 [176]	13/46	128/320
Charafeddine 1999 [34]	7/36	81/141	Soudee 2014 [177]	22/39	120/208
Chye 1995 [41]	5/14	73/142	Sun 2019 [181]	21/41	123/255
Enginner 2010 [55]	15/44	20/77	Teberg 1991 [183]	16/60	44/176
Garite 2004 [65]	287/1451	4068/22978	Viscardi 2004 [193]	6/15	145/247
Gortner 2003 [70]	7/74	2/74	Wang L.Y. 2010 [199]	15/25	41/47
Greenough 2005 [72]	1/2	16/32	Wirbelauer 2010 [204]	7/18	7/31
Gursoy 2015 [76]	12/55	138/597	Wocadlo 1994 [206]	9/18	9/18
Kim 2020 [102]	17/19	90/98	Xydis 2013 [209]	3/33	13/172
Lal 2003 [109]	96/333	497/2212	Yilmaz 2017 [212]	2/8	12/32
Malavolti 2018 [122]	32/53	325/557	Yoon 1999 [213]	7/42	27/161
May 2009 [126]	9/14	37/66	Zanardo 2002 [215]	13/18	37/82
Mello 2017 [129]	8/49	41/63	Zhang 2011 [216]	11/36	45/80

Supplementary table 6. Raw count data of the meta-analysis on the association between HDP and BPD36.

Study Name	BPD36-yes/total		Study Name	BPD36-yes/total	
	HDP-yes	HDP-no		HDP-yes	HDP-no
Ameenudeen 2007 [8]	11/74	23/159	Mao 2018 [123]	8/13	11/26
Baker 2012 [14]	3/13	10/49	Marshall 1999 [124]	31/178	193/687
Bose 2009 [19]	108/167	538/1074	Matic 2017 [125]	137/379	624/2170
Bossung [21]	368/2562	2030/13383	McGowan 2009 [127]	6/22	41/74
Cederqvist 2003 [32]	9/11	9/21	Mohamed 2015 [131]	12/16	51/80
Çetinkaya 2010 [33]	13/51	6/33	Morrow 2017 [133]	56/154	186/433
Da Silva 2018 [44]	7/25	15/42	Naeem 2020 [136]	17/24	9/12
Dasgupta 2018 [45]	20/35	16/17	Novitsky 2015 [142]	42/252	140/654
De Souza 2015 [47]	3/30	3/30	O'Shea 2012[143]	52/138	280/613
Dogan 2020 [50]	11/18	21/60	Ozkan 2012 [145]	26/117	19/215
Duan 2016b [51]	10/27	51/120	Park 2012 [147]	9/38	46/153
Eriksson 2015 [56]	139/534	395/1721	Qi 2013 [149]	3/11	22/49
Falciglia 2003 [59]	2/7	21/39	Razak 2020 [154]	21/79	27/158
Fujioka 2014 [61]	13/22	42/75	Redline 2002 [155]	22/71	90/300
Gagliardi 2013 [63]	63/441	204/1644	Regev 2015 [156]	146/929	105/864
Gagliardi 2014 [64]	459/2096	428/1510	Rocha 2018 [160]	27/75	92/419
Gemmell 2016 [67]	1523/3625	8235/24221	Schlapbach 2010 [167]	5/33	9/66
Hansen 2010 [78]	12/29	15/78	Shima 2013 [172]	8/48	45/258
Iwatani 2013 [86]	7/10	19/41	Shin 2020 [173]	91/203	673/1624
Jeon 2020 [89]	31/55	221/466	Silveira 2007 [174]	4/40	8/46
Jo 2015 [90]	106/446	583/1690	Soliman 2017[175]	23/102	56/217
Khan 2006 [96]	16/34	121/272	Spiegler 2013 [178]	48/353	134/922
Khan 2020 [97]	11/16	33/52	Todd 1997 [184]	35/57	113/239
Kim 1996 [100]	5/35	11/70	Tokumasu 2016 [185]	136/331	1003/2887
Kim 2018 [101]	24/59	37/140	Torchin 2016 [186]	79/605	180/1506
Klinger 2013 [103]	329/2470	1334/9669	Turunen 2011 [189]	11/21	21/25
Lardon-F 2017 [111]	10/47	15/82	Uberos 2020 [190]	9/28	150/361
Löfqvist 2012 [117]	9/23	49/85	Wilmink 2019[203]	12/90	15/157
Lohmann 2014 [118]	5/7	5/15	Won Choi 2006 [207]	6/19	20/56
Madoglio 2016 [120]	4/32	9/41	Yen 2013 [211]	204/847	1802/4906
Mahlman 2017 [121]	23/47	37/127			

Supplementary table 7. Raw count data of the meta-analysis on the association between SGA/IUGR and BPD36.

Study Name	BPD36-yes/total		Study Name	BPD36-yes/total	
	SGA/IUGR yes	SGA/IUGR no		SGA/IUGR yes	SGA/IUGR no
Altman 2011 [7]	24/840	44/5834	Mahlman 2017 [121]	23/43	37/131
Ameenudeen 2007 [8]	3/40	31/193	Mao 2018 [123]	7/12	12/27
Aucott 2004 [12]	9/31	11/64	May 2009 [126]	9/14	22/66
Baer 2016 [13]	179/8418	1004/70233	McGowan 2009 [127]	5/5	44/93
Baker 2012 [14]	3/6	10/56	Melamed 2016 [128]	164/918	652/5649
Bardin 1997 [16]	13/20	30/95	Mendez 2020 [130]	4/13	11/88
Bose 2009 [19]	60/77	579/1181	Mohamed 2015 [131]	13/17	50/79
Brener 2017 [24]	9/45	36/158	Monier 2017 [132]	362/720	1028/2199
Brumbaugh 2018 [25]	10/13	115/138	Morrow 2017 [133]	66/158	176/429
Brumbaugh 2020 [26]	92/131	1010/2179	Nascimento 2020 [137]	2/8	19/32
Candel 2016 [30]	17/72	0/57	Natarajan 2012 [138]	71/151	80/1008
Chen 2016 [37]	OR 2.15 (95% CI 1.75-2.64)		Nobile 2017 [141]	31/98	83/417
Claas 2011 [42]	9/21	48/80	O'Shea 2012 [143]	43/127	289/624
De Jesus 2013 [46]	145/385	928/2586	Patel 2017 [148]	18/55	59/199
Duan 2016b [51]	5/11	56/136	Qi 2013 [149]	3/7	22/53
Durrmeyer 2012 [53]	12/23	42/328	Qiu 2012 [150]	322/1249	2201/10660
El Ayoubi 2016 [54]	110/446	511/4139	Rakza 2007 [152]	4/14	6/30
Eriksson 2015 [56]	185/482	476/1757	Ranke 2007 [153]	20/51	18/46
Estevez 2017 [57]	4/34	1/76	Regev 2003 [157]	OR 3.42 (95% CI 2.28-5.12)	
Fernandez-Rodriguez, 2021 [60]	3/23	5/71	Reiss 2003 [158]	40/183	145/1182
Fujioka 2014 [61]	31/43	24/54	Rijken 2007 [159]	5/23	30/135
Gagliardi 2009 [62]	33/100	159/1109	Rocha 2010 [161]	9/53	36/152
Garofoli 2014 [66]	3/35	4/41	Rojas 2012 [160]	3/12	61/200
Giapros 2012 [68]	20/35	39/133	Ruiz-P 2014 [163]	OR 2.88 (95% CI 1.20-6.91)	
Gortner 1999 [69]	9/59	11/258	Sasi 2015 [164]	69/153	54/306
Grisaru-G 2012 [73]	106/408	865/7505	Serenius 2004 [169]	OR 1.97 (95% CI 0.81-4.79)	
Guimaraes 2010 [74]	7/47	40/209	Sharma 2004 [170]	OR 2.20 (95% CI 1.20-4.03)	
Hartung 2005 [79]	9/44	0/44	Shima 2013 [172]	15/48	38/258
Hikino 2012 [83]	0/5	13/21	Soliman 2017 [175]	13/24	66/295
Huusko 2015 [84] (Canada)	11/14	47/112	Somaschini 2012 [176]	8/46	68/318
Huusko 2015 [84] (Finland)	56/156	103/493	Soudee 2014 [177]	16/35	40/194
Jakuskiene 2011 [87]	OR 4.10 (95% CI 1.19-14.15)		Streubel 2008 [180]	5/19	33/114
Jensen 2019 [88]	288/631	1494/5633	Tammela 1992 [182]	2/17	21/29
Kalra 2014 [91]	5/7	28/53	Torchin 2016 [186]	90/481	169/1630
Karagianni 2011 [94]	13/52	48/167	Tsai 2015 [188]	230/451	306/992
Karagianni 2013 [95]	6/9	22/52	Uberos 2020 [190]	25/79	134/310
Khan 2020 [97]	3/4	41/64	Vrlenich 1995 [194]	20/125	75/281
Klinger 2013 [103]	384/2515	1279/9624	Wadhawan 2007 [195]	517/1248	3452/8213
Korhonen 2004 [105]	6/20	28/48	Wang 2013 [198]	72/122	783/1527
Lal 2003 [109]	74/348	274/2195	Wang L.Y. 2010 [199]	10/25	41/47
Lardon-Fdz 2017 [111]	18/40	47/89	Wemhoner 2011 [201]	3/8	23/87
Lehtinen 2017 [112]	12/25	9/28	Westby W 2009 [202]	15/31	130/334

Leroy 2018 [113]	7/9	25/53	Xu 2016 [208]	2/4	30/38
Lin 2005 [115]	28/62	84/162	Xydis 2013 [209]	14/33	106/172
Lodha 2014 [116]	78/183	500/847	Yu 2011 [214]	13/49	142/366
Lofqvist 2012 [117]	16/26	42/82			

Supplementary table 8. Raw count data of the meta-analysis on the association between HDP and severe BPD.

Study Name	Severe BPD yes/total		Study Name	Severe BPD yes/total	
	HDP-yes	HDP-no		HDP-yes	HDP-no
EXPRESS 2010 [58]	OR 2.00 (95% CI 1.00-4.00)		Newman 2011[140]	8/35	40/111
Guo 2015 [75]	4/10	44/65	Ozkan 2012 [145]	14/117	16/215
Kim 2014 [99]	3/5	34/51	Park 2012 [147]	5/31	33/160
Lardon-F 2017 [111]	4/47	5/82	Somaschini 2017 [176]	4/62	32/304

Supplementary table 9. Raw count data of the meta-analysis on the association between SGA/IUGR and severe BPD.

Study Name	Severe BPD yes/total		Study Name	Severe BPD yes/total	
	SGA/IUGR yes	SGA/IUGR no		SGA/IUGR yes	SGA/IUGR no
Bose 2011 [20]	11/52	75/880	Lardon-F 2017 [111]	4/40	5/89
Brumbaugh 2018 [25]	8/13	75/138	May 2009 [126]	5/14	9/71
Brumbaugh 2020 [26]	16/131	103/2179	Monier 2017 [132]	72/720	131/2199
EXPRESS 2010 [58]	OR 1.90 (95% CI 1.10-3.28)		Morsing [134]	21/30	10/32
Guo 2015 [75]	5/11	43/67	Newman 2011[140]	5/16	43/140
Hadchouel 2020 [77]	3/3	8/16	Somaschini 2017 [176]	4/46	32/320
Imamura 2017 [85]	16/32	51/137	Wang 2010 [199]	3/15	17/41
Kim 2014 [99]	6/7	31/49	Xu 2016 [208]	2/4	13/38
Kim 2020 [102]	5/21	16/98			

Supplementary table 10. Raw count data of the meta-analysis on the association between HDP and BPD36 or death.

Study Name	BPD36 or death yes/total		Study Name	BPD36 or death yes/total	
	HDP-yes	HDP-no		HDP-yes	HDP-no
Balena 2017 [15]	25/66	16/47	Oh 2005 [144]	166/354	631/1028
Lapcharoensap 2015 [110]	1172/2864	5909/12188	Starr 2020 [179]	28/63	218/483
Li 2013 [114]	7/21	51/139	Van Mastrigt 2018 [191]	11/25	33/86
Madoglio 2016 [120]	13/32	20/40	Wilmink 2019[203]	21/99	32/174

Supplementary table 11. Raw count data of the meta-analysis on the association between SGA/IUGR and BPD36 or death.

Study Name	BPD36 or death-yes/total		Study Name	BPD36 or death-yes/total	
	SGA/IUGR yes	SGA/IUGR no		SGA/IUGR yes	SGA/IUGR no
Botet 2012 [22]	37/149	79/266	Rakza 2007 [152]	7/17	7/31
Durrmeyer 2012 [53]	13/24	86/372	Regev 2003 [156]	235/406	1019/2538
Jensen 2019 [88]	400/743	1826/5695	Sasi 2015 [164]	70/153	66/306
Kandasamy 2015 [93]	16/35	19/117	Schena 2015 [165]	28/69	77/173
Lapcharoensap 2015 [110]	483/919	6598/14133	Soudee 2014 [177]	32/51	77/242
Li 2013 [114]	9/21	49/139	Starr 2020 [179]	20/45	226/501
Lal 2003 [109]	147/401	512/2433	Tsai 2015 [188]	349/560	434/1120
Nobile 2017 [141]	60/98	134/418	Wadhawan 2007 [195]	743/1248	4496/8213
Qiu 2012 [150]	471/1249	3068/10660	Westby 2009 [202]	25/31	195/334

Supplementary table 12. Raw count data of the meta-analysis on the association between HDP and BPD-associated pulmonary hypertension.

Study Name	BPD-associated PH yes/total		Study Name	BPD-associated PH no/total	
	HDP-yes	HDP-no		HDP-yes	HDP-no
Blanca 2018 [18]	2/10	5/56	MacKenzie 2019 [119]	2/21	22/63
Bruno 2015 [27]	6/67	31/236	Mourani 2015 [135]	12/74	27/193
Carton 2016 [31]	4/19	18/65	Naeem 2020 [136]	3/17	3/9
Check 2013 [35]	11/32	28/106	Ra 2013 [151]	7/19	11/66
Choi 2019 [39]	3/5	14/35	Seo 2020 [168]	6/13	18/68
Dasgupta 2018 [45]	3/20	5/16	Sheth 2020 [171]	15/49	44/171
Kanaan 2018 [92]	19/106	144/1234	Vayalthrikkovil 2019 [192]	4/18	19/103
Kim 2014 [99]	2/3	13/34	Wang 2018 [197]	6/13	31/141
Kunjunju 2017 [107]	10/17	12/39	Weismann 2017 [200]	12/36	32/124
Lagata 2018 [108]	123/437	247/1240	Yallapragada 2016 [210]	2/2	5/12

Supplementary table 13. Raw count data of the meta-analysis on the association between SGA/IUGR and BPD-associated pulmonary hypertension.

Study Name	BPD-associated PH yes/total		Study Name	BPD-associated PH no/total	
	SGA/IUGR yes	SGA/IUGR no		SGA/IUGR yes	SGA/IUGR no
An 2010 [10]	6/17	23/99	Khemani 2007 [98]	8/11	10/31
Aswani 2016 [11]	9/39	10/191	Kim 2014 [99]	3/6	12/31
Bhat 2012 [17]	12/26	24/119	Lagata 2018 [108]	141/403	229/1274
Bruno 2015 [27]	10/49	27/254	Mourani 2015 [135]	9/47	30/230
Carton 2016 [31]	2/11	20/73	Seo 2020 [168]	4/13	20/68
Check 2013 [35]	15/23	24/115	Sheth 2020 [171]	16/28	43/192
Chen 2020 [36]	12/21	49/169	Vayalthrikkovil 2019 [192]	5/14	19/97
Choi 2015 [39]	15/52	35/122	Wang 2018 [197]	6/9	31/145
De Vries 2017 [49]	6/100	12/477	Weismann 2017 [200]	9/30	35/129
Kanaan 2018 [92]	55/302	108/1038	Yallapragada 2016 [210]	4/5	3/9

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