

Supplementary Online Content

Bi WG, Nuyt AM, Weiler H, Leduc L, Santamaria C, Wei SQ. Association between vitamin D supplementation during pregnancy and offspring growth, morbidity, and mortality: a systematic review and meta-analysis. *JAMA Pediatr.* Published online May 29, 2018. doi:10.1001/jamapediatrics.2018.0302

eTable. Assessment of Bias Risk of Randomized Clinical Trials

eFigure 1. Summary Risk Ratio (RR) of the Association Between Vitamin D Supplementation and Small for Gestational Age (SGA) Stratified by Administration Method of Intervention (Regular or Bolus Dose)

eFigure 2. Summary Risk Ratio of the Association Between Vitamin D Supplementation and Fetal or Neonatal Mortality Stratified by Administration Method of Intervention (Regular or Bolus Dose).

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eFigure 7. The Funnel Plots of the Primary Outcomes

This supplementary material has been provided by the authors to give readers additional information about their work.

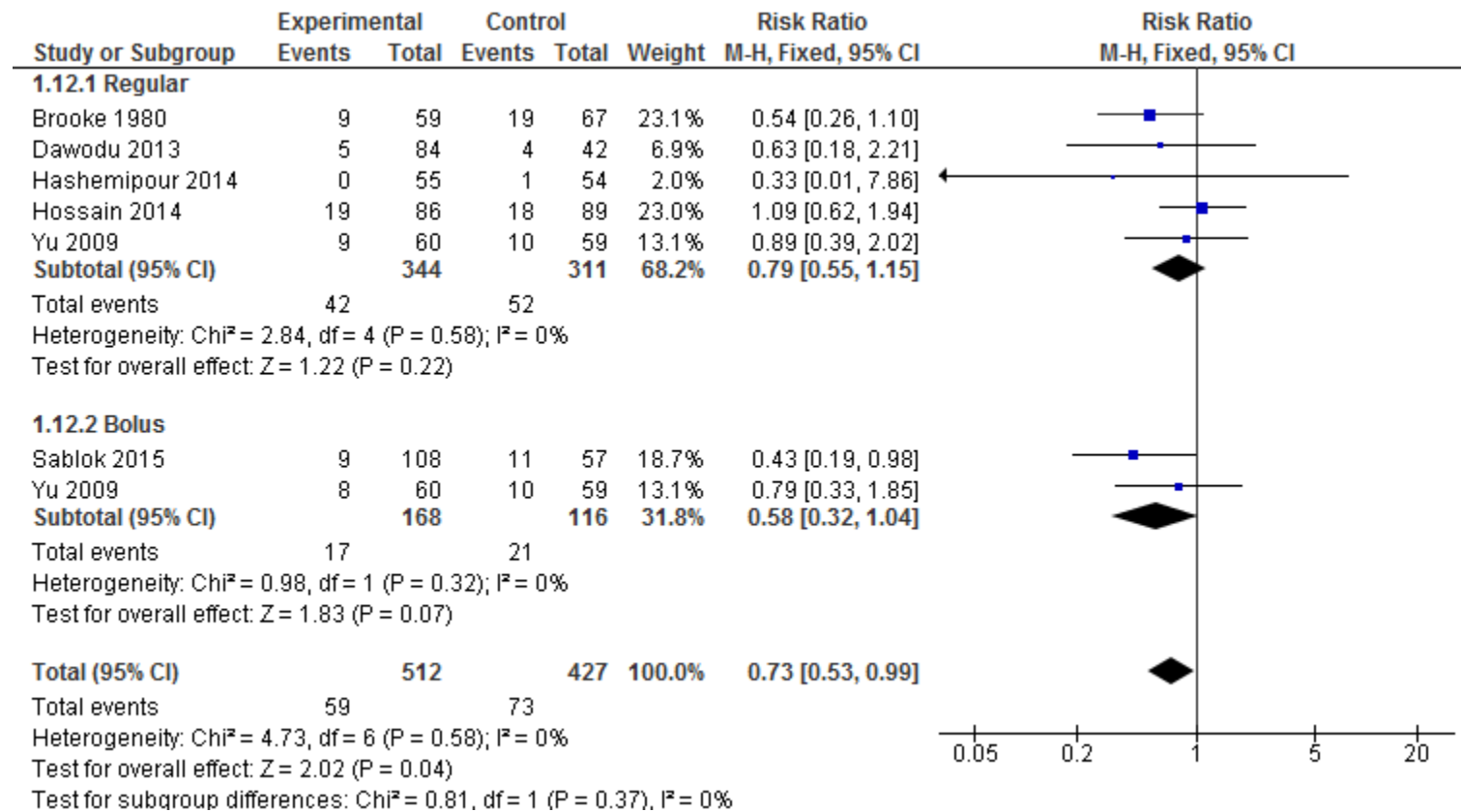
eTable. Assessment of Bias Risk of Randomized Clinical Trials

Study	Sequence generation	Allocation concealment	Blinding of participants and personnel	Blinding of outcome assessment	Incomplete outcome data	Selective outcome data	Other sources of bias
Brooke 1980	Low	Low	Low	Low	Low	Low	Unclear
Chawes 2015	Low	Low	Low	Low	Low	Low	Unclear
Cooper 2016	Low	Low	Low	Low	Low	Low	Unclear
Dawodu 2013	Low	Low	Low	Low	Low	Low	Unclear
Delvin 1986	Unclear	Unclear	High	High	High	Low	Unclear
Goldring 2013 and Yu 2009	Low	Low	Low	Low	Low	Low	Unclear
Grant 2014	Low	Low	Low	Low	Low	Low	Unclear
Hashemipour 2014	Low	Unclear	High	Unclear	Low	Low	Unclear
Hollis 2011	Low	Unclear	Low	Low	Low	Low	Unclear
Hossain 2014	High	Unclear	High	Unclear	Low	Low	Unclear
Kalra 2012	Low	Low	Low	Low	Low	Low	Unclear
Karamal 2015	Low	Low	Low	Low	Low	Low	Unclear
Litonjua 2016	Low	Low	Low	Low	Low	Low	Unclear
Mallet 1986	Low	Low	Unclear	Unclear	Low	Low	Unclear
March 2015	Low	Low	Low	Low	High	Low	Unclear
Marya 1988	Unclear	Unclear	Unclear	Unclear	Low	Low	Unclear
Mojibian 2015	Low	Low	High	Low	Low	Low	Unclear
Rodda 2015	High	Low	High	Low	High	Low	Unclear

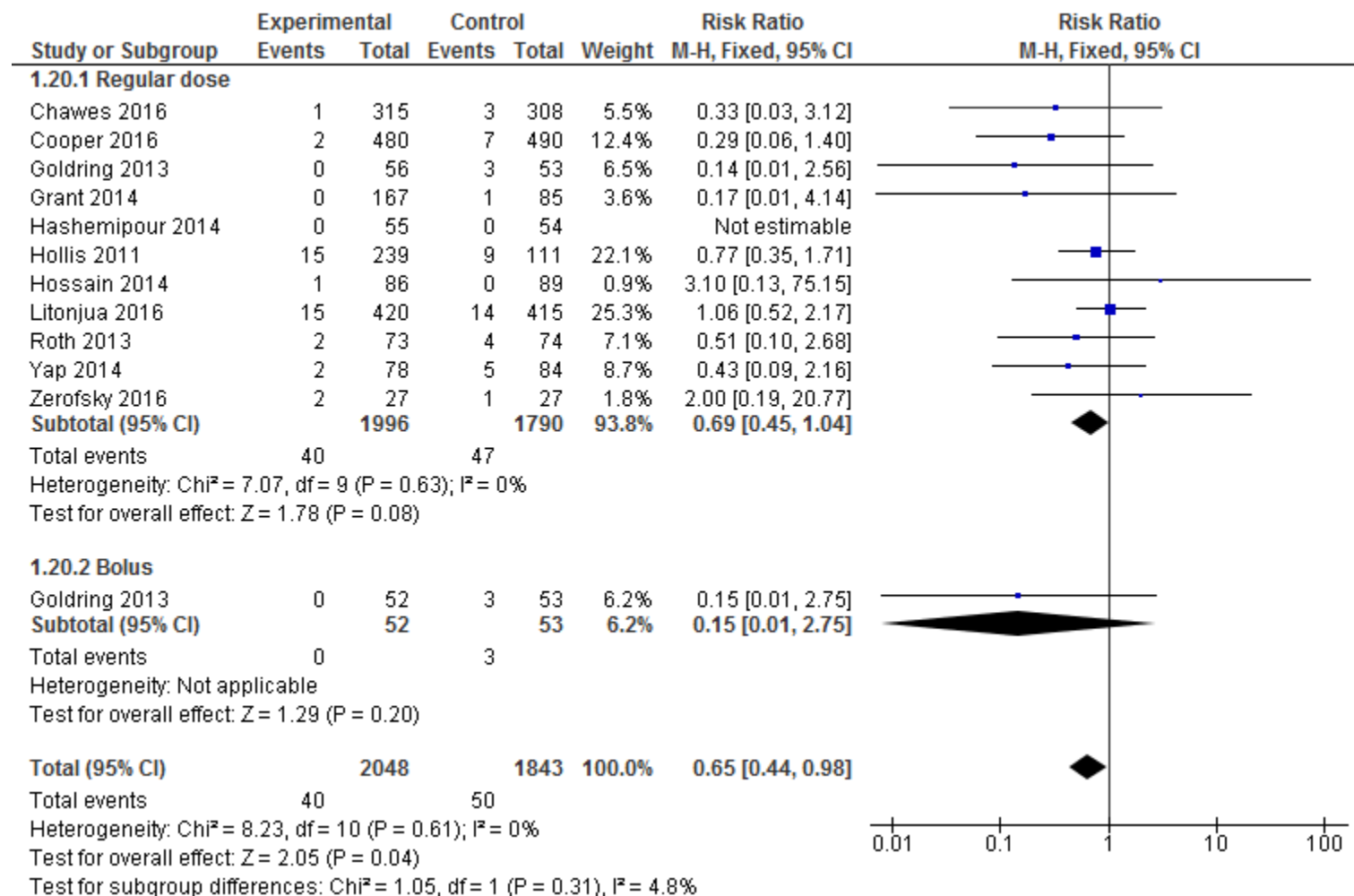
eTable. Assessment of Bias Risk of Randomized Clinical Trials (continued)

Roth 2013	Low	Low	Low	Low	Low	Low	Unclear
Sablok 2015	Low	High	Unclear	Unclear	Low	Low	Unclear
Sahoo 2016	Low	Low	Low	Low	High	Low	Unclear
Yap 2014	Low	Low	Low	Low	Low	Low	Unclear
Yesiltepe et Mutlu 2014	Unclear	Low	High	High	High	Low	Unclear
Zerofsky 2016	Low	Low	Low	Low	Low	Low	Unclear

eFigure 1. Summary Risk Ratio (RR) of the Association Between Vitamin D Supplementation and Small for Gestational Age (SGA) Stratified by Administration Method of Intervention (Regular or Bolus Dose).



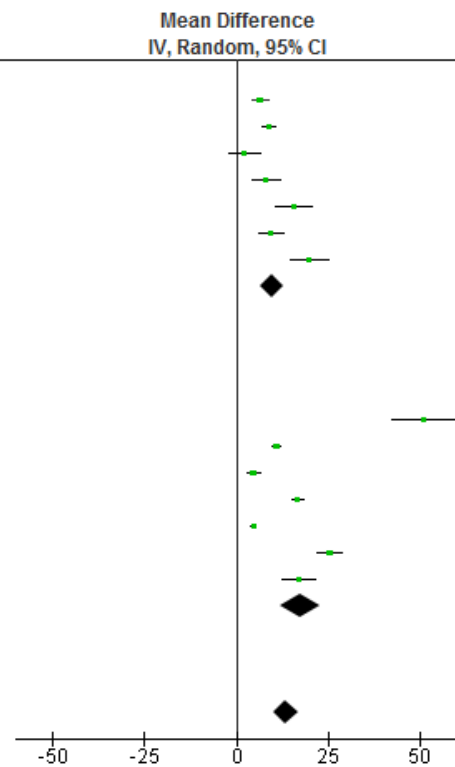
eFigure 2. Summary Risk Ratio of the Association Between Vitamin D Supplementation and Fetal or Neonatal Mortality Stratified by Administration Method of Intervention (Regular or Bolus Dose).



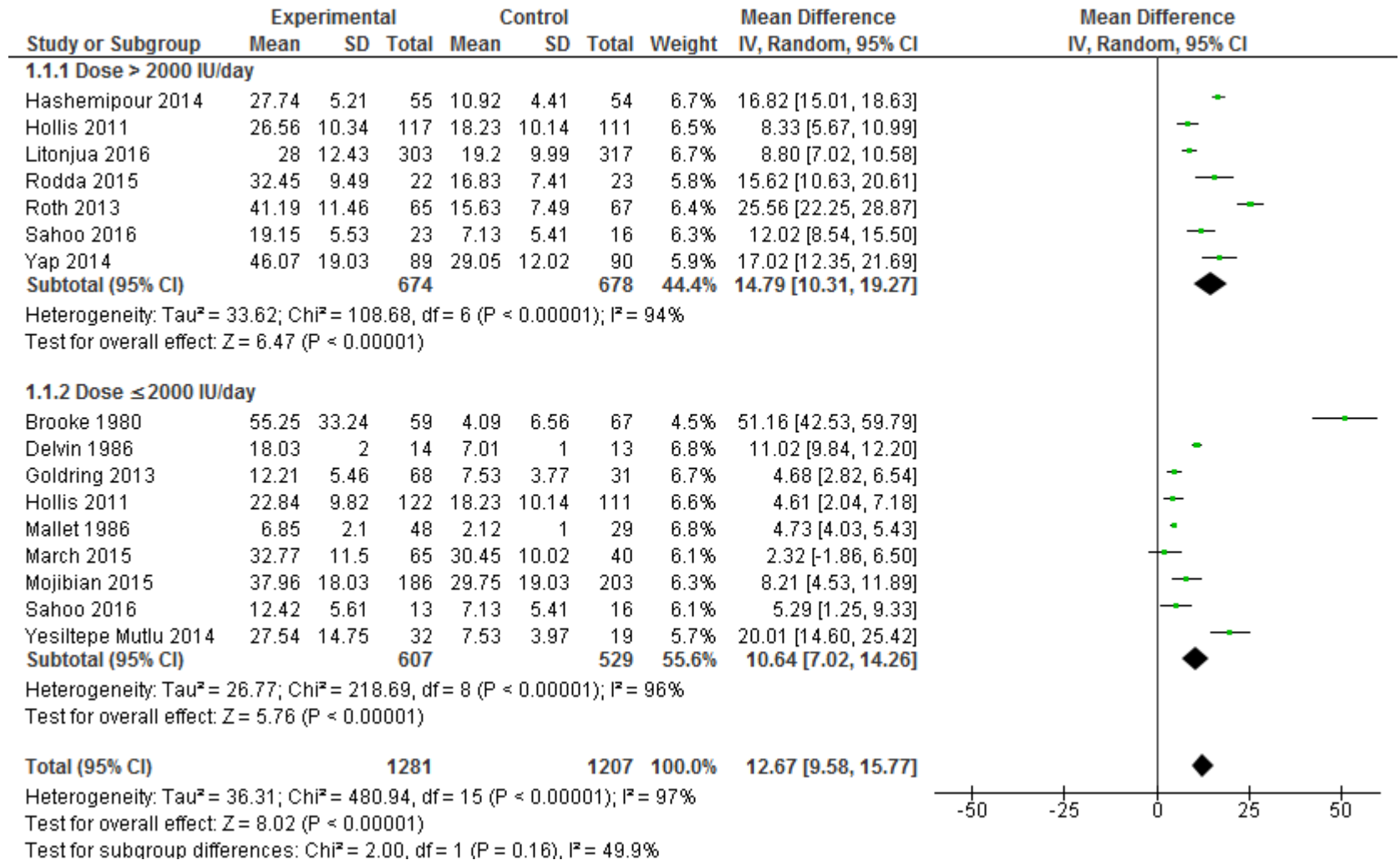
eFigure 3. Forest Plots of Summary Mean Difference (MD) of Neonatal 25-Hydroxyvitamin D (25[OH]D) (ng/mL) Between Vitamin D Supplementation Group and Control Group. Subgroup analyses by (A) Timing (initiation <20 weeks of gestation or ≥20 weeks of gestation); (B) Dose (>2000IU/day or ≤2000IU/day); and (C) Method (regular doses or bolus) of intervention.

(A) Timing

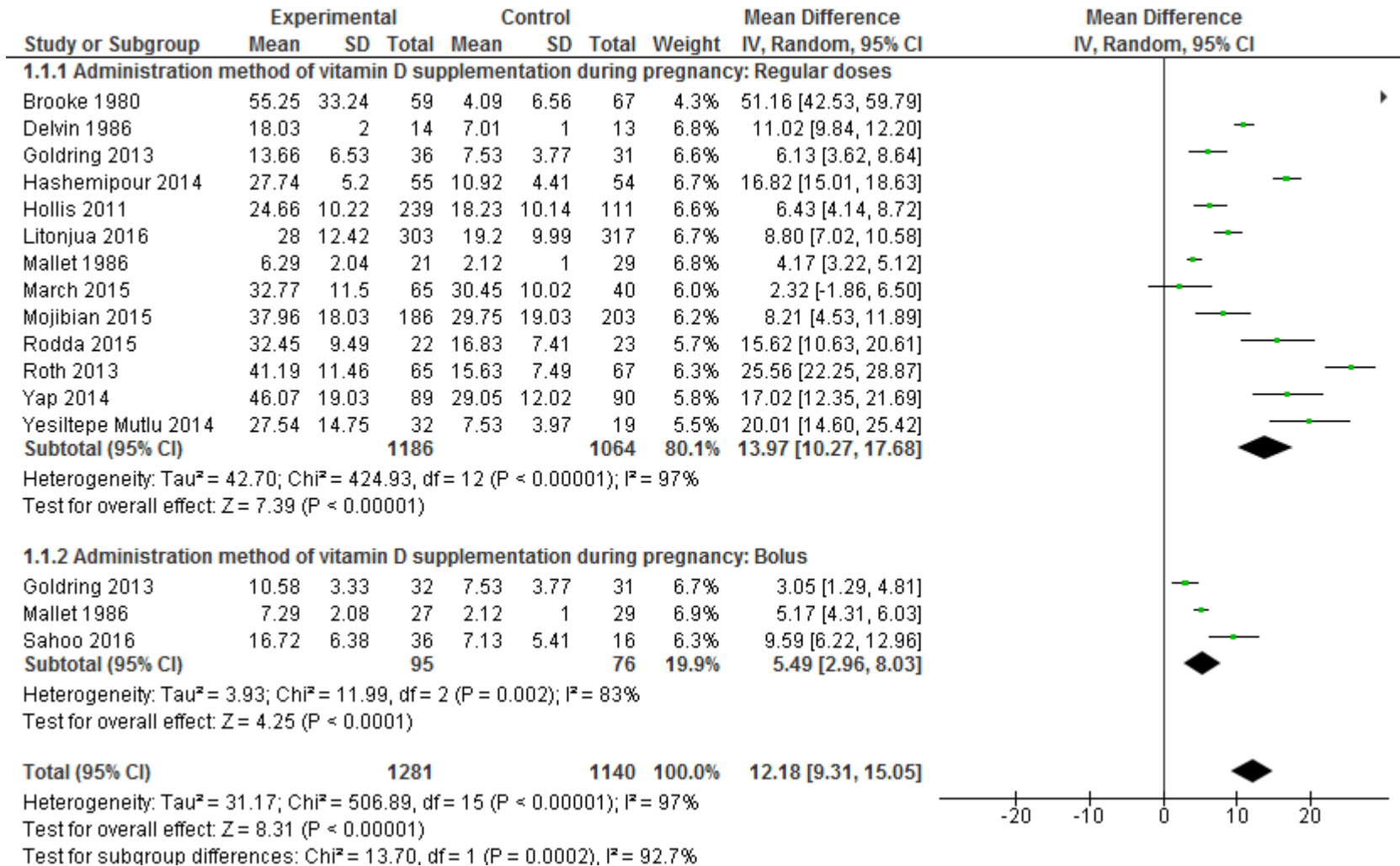
Study or Subgroup	Experimental			Control			Weight	Mean Difference IV, Random, 95% CI
	Mean	SD	Total	Mean	SD	Total		
1.1.1 Timing of vitamin D supplementation during pregnancy: initiation <20 weeks of gestation								
Hollis 2011	24.66	10.22	239	18.23	10.14	111	7.6%	6.43 [4.14, 8.72]
Litonjua 2016	28	12.43	303	19.2	9.99	317	7.7%	8.80 [7.02, 10.58]
March 2015	32.77	11.5	65	30.45	10.02	40	7.0%	2.32 [-1.86, 6.50]
Mojibian 2015	37.96	18.03	186	29.75	19.03	203	7.2%	8.21 [4.53, 11.89]
Rodda 2015	32.45	9.49	22	16.83	7.41	23	6.7%	15.62 [10.63, 20.61]
Sahoo 2016	16.72	6.38	36	7.13	5.41	16	7.3%	9.59 [6.22, 12.96]
Yesiltepe Mutlu 2014	27.54	14.75	32	7.53	3.96	19	6.5%	20.01 [14.80, 25.42]
Subtotal (95% CI)			883			729	49.9%	9.69 [6.64, 12.75]
Heterogeneity: Tau ² = 13.42; Chi ² = 37.23, df = 6 (P < 0.00001); I ² = 84%								
Test for overall effect: Z = 6.22 (P < 0.00001)								
1.1.2 Timing of vitamin D supplementation during pregnancy: initiation ≥ 20 weeks of gestation								
Brooke 1980	55.25	33.24	59	4.09	6.56	67	5.2%	51.16 [42.53, 59.79]
Delvin 1986	18.03	2	14	7.01	1	13	7.8%	11.02 [9.84, 12.20]
Goldring 2013	12.21	5.46	68	7.53	3.77	31	7.7%	4.68 [2.82, 6.54]
Hashemipour 2014	27.74	5.21	55	10.92	4.41	54	7.7%	16.82 [15.01, 18.63]
Mallet 1986	6.85	2.1	48	2.12	1	29	7.8%	4.73 [4.03, 5.43]
Roth 2013	41.19	11.46	65	15.63	7.49	67	7.3%	25.56 [22.25, 28.87]
Yap 2014	46.07	19.03	89	29.05	12.02	90	6.8%	17.02 [12.35, 21.69]
Subtotal (95% CI)			398			351	50.1%	17.40 [11.85, 22.94]
Heterogeneity: Tau ² = 52.26; Chi ² = 431.53, df = 6 (P < 0.00001); I ² = 99%								
Test for overall effect: Z = 6.15 (P < 0.00001)								
Total (95% CI)			1281			1080	100.0%	13.50 [10.12, 16.87]
Heterogeneity: Tau ² = 37.85; Chi ² = 469.97, df = 13 (P < 0.00001); I ² = 97%								
Test for overall effect: Z = 7.84 (P < 0.00001)								
Test for subgroup differences: Chi ² = 5.69, df = 1 (P = 0.02), I ² = 82.4%								



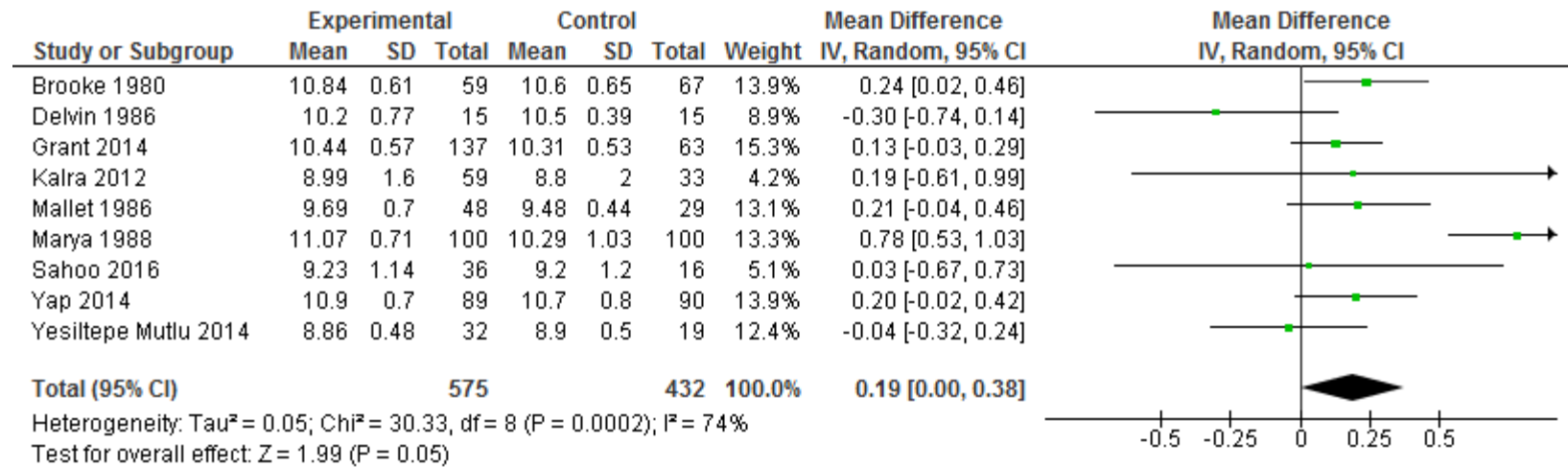
(B) Dose



(C) Method (regular doses or bolus)

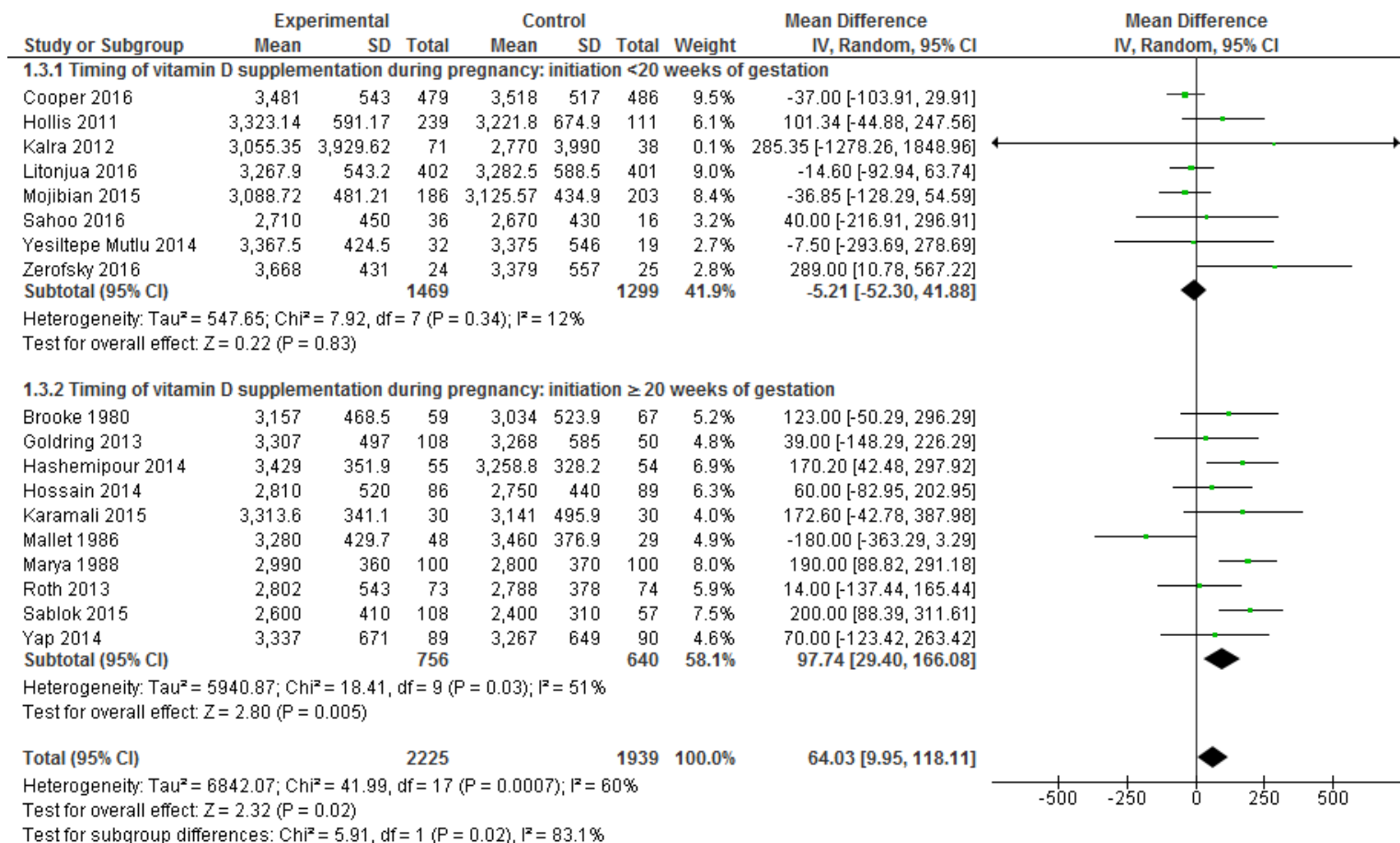


eFigure 4. Forest Plots of Summary Mean Difference (MD) of Neonatal Calcium (mg/dL) Between Vitamin D Supplementation Group and Control Group.

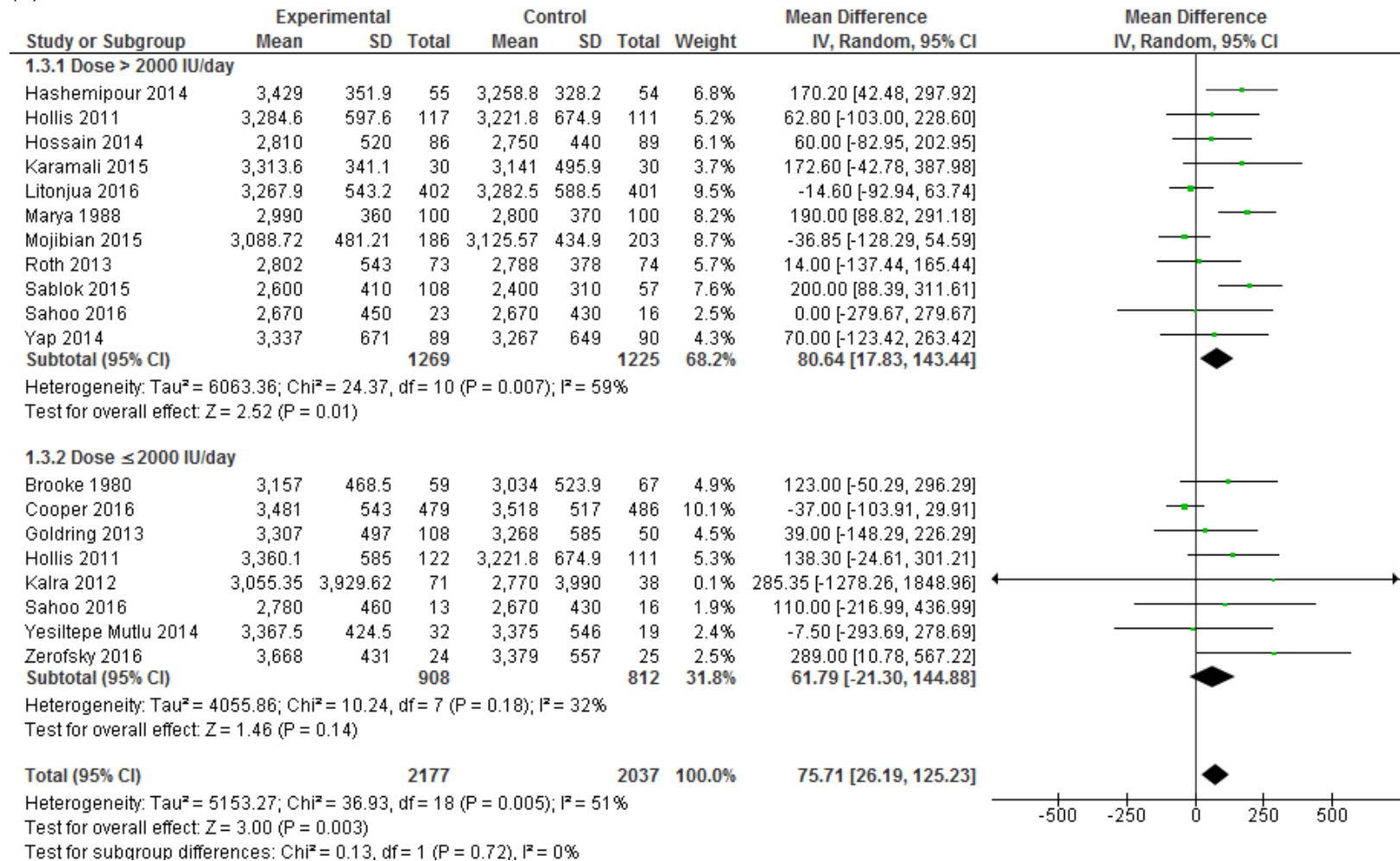


eFigure 5. Forest Plots of Summary Mean Difference (MD) of Birth Weight (g) Between Vitamin D Supplementation Group and Control Group. Subgroup analyses by (A) Timing (initiation <20 weeks of gestation or ≥20 weeks of gestation); (B) Dose (>2000IU/day or ≤2000IU/day); and (C) Method (regular doses or bolus) of intervention.

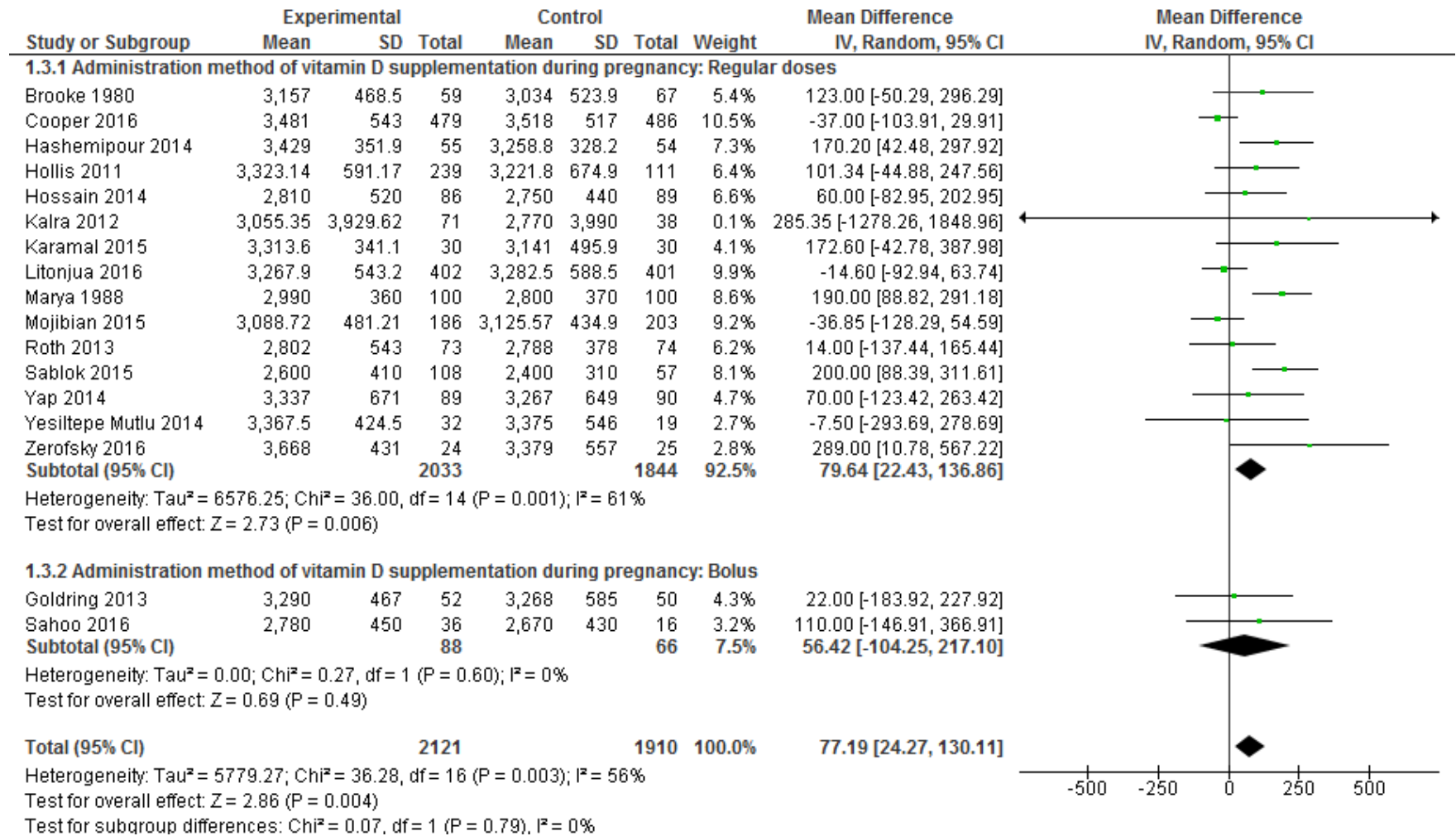
(A) Timing



(B) Dose

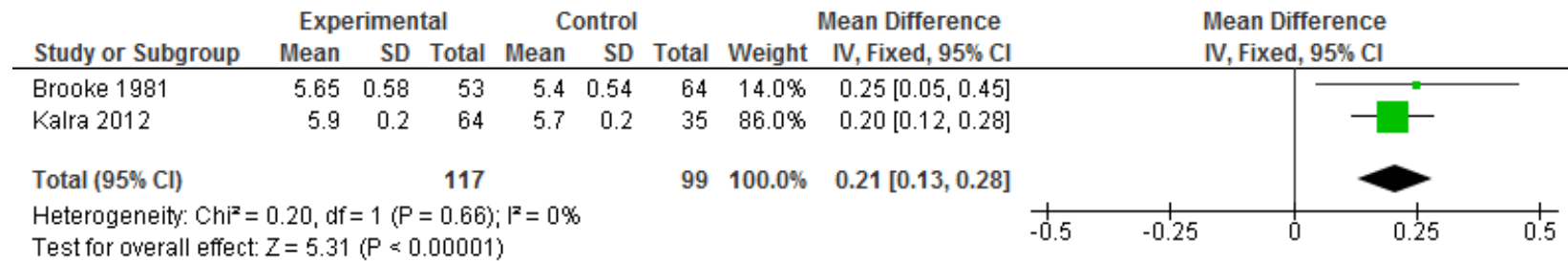


(C) Method (regular doses or bolus)

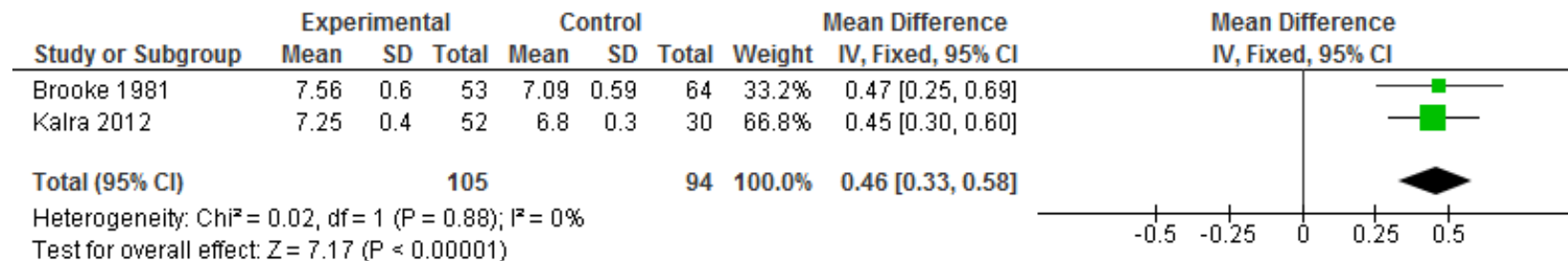


eFigure 6. Forest Plots of Summary Mean Difference (MD) of Postnatal Weight (kg) Between Vitamin D Supplementation Group and Control Group in Infants at Age (A) 3 Months; (B) 6 Months; (C) 9 Months; and (D) 12 Months.

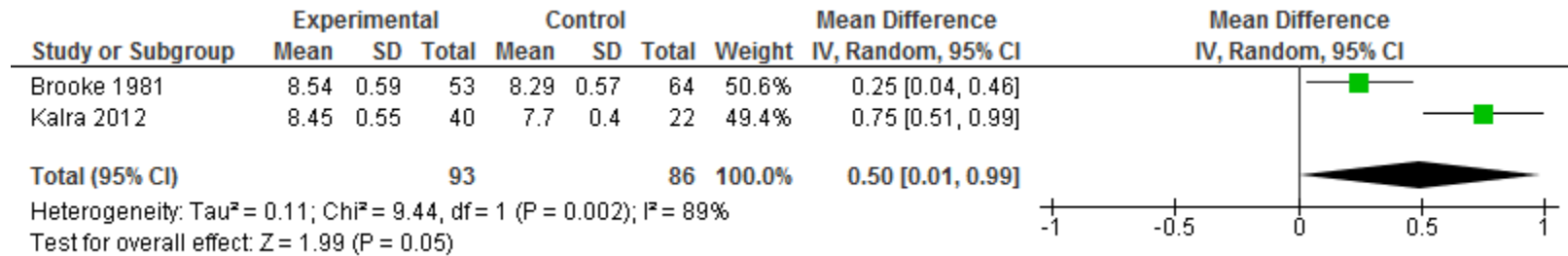
(A)



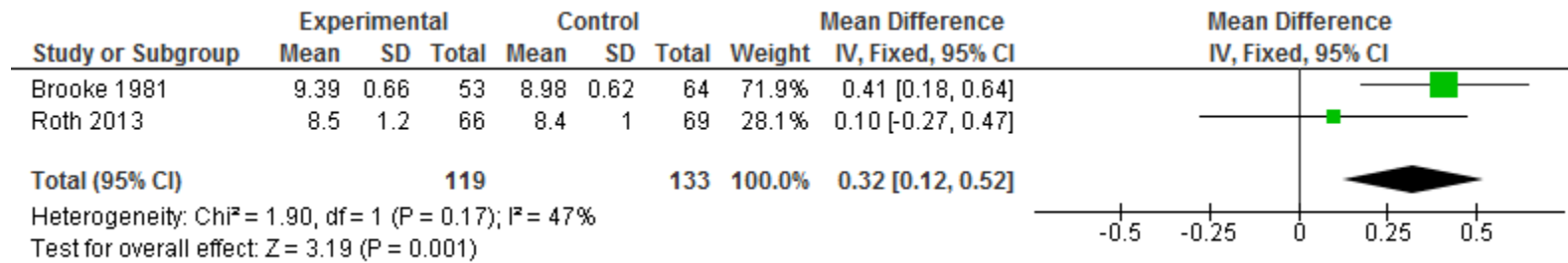
(B)



(C)

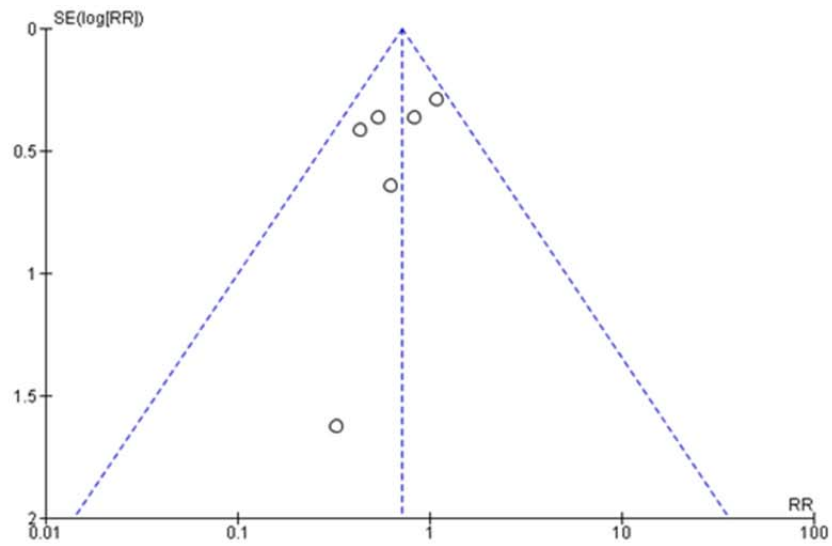


(D)



eFigure 7. The Funnel Plots of the Primary Outcomes. (A) Funnel plots for SGA; (B) Funnel plots for fetal or neonatal mortality.

(A) Funnel plots for SGA



(B) Funnel plots for fetal or neonatal mortality

