

Supplementary Online Content

Zhu H, You X, Jing Y, et al; China National Birth Cohort Study Group. Maternal hypertensive disorder in pregnancy and childhood strabismus in offspring. *JAMA Netw Open*. 2024;7(7):e2423946. doi:10.1001/jamanetworkopen.2024.23946

eTable 1. Comparisons of Characteristics Between the Included and Excluded Offspring and Their Parents

eTable 2. The ICD-10 Codes Used to Identify Different Types of Maternal HDP

eTable 3. Missing Data for Covariates

eTable 4. Comparisons of Characteristics Between Offspring With Complete and Incomplete Data of Covariates Adjusted in Model 2

eTable 5. Comparisons of Characteristics Between Offspring With Complete and Incomplete Data of Covariates Adjusted in Model 3

eTable 6. Relative Risks for the Association Between Maternal DIP and Overall and Specific Types of Strabismus in Offspring

eTable 7. Relative Risks for the Association Between Maternal HDP and Overall and Specific Types of Strabismus Restricted to Offspring Without Exposure to Maternal Alcohol Consumption During Pregnancy

eTable 8. Relative Risks for the Association Between Maternal HDP and Overall and Specific Types of Strabismus Restricted to Offspring Without Exposure to Maternal Smoking during Pregnancy

eTable 9. Relative Risks for the Association Between Maternal HDP and Overall and Specific Types of Strabismus Restricted to Offspring With Normal Apgar Score

eTable 10. Relative Risks for the Association Between Maternal HDP and Overall and Specific Types of Strabismus Restricted to Offspring Without Congenital Abnormality

eTable 11. Relative Risks for the Association Between Maternal HDP and Overall and Specific Types of Strabismus Restricted to Offspring With Normal Head Circumference

eTable 12. Relative Risks for the Association Between Maternal HDP and Overall and Specific Types of Strabismus Restricted to Offspring Born to Primipara

eTable 13. Relative Risks for the Association Between Maternal HDP and Overall and Specific Types of Strabismus Restricted to Term-born Children of Normal Birth Weight

eTable 14. Relative Risks for the Association Between Maternal HDP and Overall and Specific Types of Strabismus after Excluding Children With Exposure to Paternal Hypertension or Diabetes before Pregnancy

eTable 15. Relative Risks for the Association Between Maternal HDP and Overall and Specific Types of Strabismus Restricted to Children Born to Mothers With Prepregnancy BMI <24

eTable 16. Relative Risks for the Association Between Maternal HDP and Overall and Specific Types of Strabismus after PSM

eTable 17. Direct Comparisons of Overall Strabismus Risk in Offspring Between Different HDP Types, BP Control Levels, or Their Combinations

eFigure. Directed Acyclic Graph Documenting Assumptions About the Association Between Covariates, Exposure, and Outcome

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

eTable 1. Comparisons of Characteristics Between the Included and Excluded Offspring and Their Parents

Characteristic	Included (n=3117)	Excluded (n=3067)	P value ^a
HDP, No. (%)			
No	2974 (95.4)	2864 (93.4)	0.001
Yes	143 (4.6)	203 (6.6)	
Maternal age, mean (SD), year	30.40 (3.76)	30.67 (3.91)	0.005
Maternal prepregnancy BMI, No. (%)			
<24 kg/m ²	2584 (83.3)	2511 (82.1)	0.23
≥24 kg/m ²	519 (16.7)	548 (17.9)	
Maternal alcohol consumption, No. (%)			
No	3043 (98.4)	2993 (98.1)	0.46
Yes	51 (1.6)	59 (1.9)	
Maternal smoking, No. (%)			
No	3078 (99.5)	3026 (99.1)	0.12
Yes	16 (0.5)	27 (0.9)	
Maternal DIP, No. (%)			
No	2305 (73.9)	2278 (74.3)	0.79
Yes	812 (26.1)	789 (25.7)	
Parity, No. (%)			
Primipara	2551 (82.4)	2497 (81.5)	0.38
Multipara	545 (17.6)	567 (18.5)	
Maternal education level, No. (%)			
≤12 years	312 (10.0)	485 (15.8)	<.001
>12 years	2795 (90.0)	2580 (84.2)	
Maternal residence, No. (%)			
Country	492 (15.8)	504 (16.4)	0.51
City	2624 (84.2)	2563 (83.6)	
Household annual income, No. (%)			
<100000 CNY	1008 (33.5)	1051 (35.3)	0.001
100000-200000 CNY	1346 (44.8)	1200 (40.3)	
>200000 CNY	651 (21.7)	725 (24.4)	
Paternal age, mean (SD), year	31.90 (4.70)	32.21 (4.81)	0.01
Paternal hypertension before pregnancy, No. (%)			
No	3107 (99.7)	3057 (99.7)	>.99
Yes	10 (0.3)	10 (0.3)	
Paternal diabetes before pregnancy, No. (%)			
No	3111 (99.8)	3060 (99.8)	0.98
Yes	6 (0.2)	7 (0.2)	
Mode of conception, No. (%)			
Spontaneously conceived	2620 (84.1)	2292 (74.7)	<.001
ART	497 (15.9)	775 (25.3)	
Singleton, No. (%)			

Yes	2867 (92.0)	2682 (87.4)	<.001
No	250 (8.0)	385 (12.6)	
Mode of delivery, No. (%)			
Natural delivery	1675 (53.9)	1405 (46.3)	<.001
Cesarean section	1433 (46.1)	1632 (53.7)	
Gestational week at birth, mean (SD), week	38.84 (1.64)	38.50 (1.96)	<.001
Birth weight, mean (SD), kilogram	3.31 (0.48)	3.26 (0.54)	<.001
Apgar score at 1 minute, No. (%)			
>7	3055 (99.6)	2885 (99.6)	0.73
≤7	11 (0.4)	13 (0.4)	
Apgar score at 5 minutes, No. (%)			
>7	3031 (100.0)	2777 (99.8)	0.06
≤7	0 (0.0)	5 (0.2)	
Offspring sex, No. (%)			
Male	1629 (52.3)	1628 (53.1)	0.54
Female	1488 (47.7)	1439 (46.9)	
Offspring congenital abnormality, No. (%)			
No	2967 (95.6)	2888 (94.6)	0.08
Yes	138 (4.4)	166 (5.4)	
Offspring head circumference, No. (%)			
<10 th centile	58 (3.4)	45 (4.3)	0.08
10 th -90 th centile	1497 (88.9)	907 (86.0)	
>90 th centile	129 (7.7)	103 (9.8)	

Abbreviations: HDP, hypertensive disorder of pregnancy; BMI, body mass index (calculated as weight in kilograms divided by height in meters squared); DIP, diabetes in pregnancy; CNY, Chinese Yuan; ART, assisted reproductive technology.

^a Statistical significance was tested using an independent unpaired t test for continuous variables, and χ^2 or fisher exact test for categorical variables.

eTable 2. The ICD-10 Codes Used to Identify Different Types of Maternal HDP

	ICD-10
Pre-eclampsia	
Moderate pre-eclampsia	O14.0
Severe pre-eclampsia	O14.1
HELLP syndrome	O14.2
Unspecified pre-eclampsia	O14.9
Eclampsia	O15
Gestational hypertension	
Gestational (pregnancy-induced) hypertension	O13
Unspecified maternal hypertension	O16
Chronic hypertension	
Essential hypertension	I10
Hypertensive heart disease	I11
Hypertensive renal disease	I12
Hypertensive heart and renal disease	I13
Secondary hypertension	I15
Pre-existing hypertension complicating pregnancy	O10
Pre-eclampsia superimposed on chronic hypertension	O11

Abbreviations: ICD-10, International Classification of Diseases 10th Revision; HDP, hypertensive disorder of pregnancy.

eTable 3. Missing Data for Covariates

Covariates, No. (%)	Overall (n=3117)
Maternal age	0 (0.0)
Maternal prepregnancy BMI	14 (0.4)
Parity	21 (0.7)
Maternal alcohol consumption	23 (0.7)
Maternal smoking	23 (0.7)
Paternal age	4 (0.1)
Paternal hypertension before pregnancy	0 (0.0)
Paternal diabetes before pregnancy	0 (0.0)
Mode of conception	0 (0.0)
Singleton	0 (0.0)
Mode of delivery	9 (0.3)
Gestational week at birth	12 (0.4)
Birth weight	2 (0.1)
Apgar score at 1 minute	51 (1.6)
Apgar score at 5 minutes	86 (2.8)
Offspring sex	0 (0.0)
Offspring congenital abnormality	12 (0.4)
Offspring head circumference	1433 (46.0)
Offspring refractive error	99 (3.2)
Offspring age	0 (0.0)
Household annual income	112 (3.6)
Maternal education level	10 (0.3)
Maternal residence	1 (0.0)

Abbreviations: BMI, body mass index (calculated as weight in kilograms divided by height in meters squared).

eTable 4. Comparisons of Characteristics Between Offspring With Complete and Incomplete Data of Covariates Adjusted in Model 2^a

Characteristic	With complete data (n=2995)	With incomplete data (n=122)	P value ^b
Outcome, No. (%)			
No	2644 (88.3)	105 (86.1)	0.55
Yes	351 (11.7)	17 (13.9)	
HDP, No. (%)			
No	2854 (95.3)	120 (98.4)	0.17
Yes	141 (4.7)	2 (1.6)	
Maternal age, mean (SD), year	30.41 (3.76)	30.16 (3.90)	0.49
Maternal prepregnancy BMI, No. (%)			
<24 kg/m ²	2482 (83.0)	102 (90.3)	0.06
≥24 kg/m ²	508 (17.0)	11 (9.7)	
Maternal alcohol consumption, No. (%)			
No	2928 (98.3)	115 (99.1)	0.76
Yes	50 (1.7)	1 (0.9)	
Maternal smoking, No. (%)			
No	2962 (99.5)	116 (100.0)	0.90
Yes	16 (0.5)	0 (0.0)	
Maternal DIP, No. (%)			
No	2209 (73.8)	96 (78.7)	0.27
Yes	786 (26.2)	26 (21.3)	
Parity, No. (%)			
Primipara	2450 (82.3)	101 (84.2)	0.69
Multipara	526 (17.7)	19 (15.8)	
Maternal education level, No. (%)			
≤12 years	309 (10.3)	3 (2.7)	0.01
>12 years	2686 (89.7)	109 (97.3)	
Maternal residence, No. (%)			
Country	482 (16.1)	10 (8.3)	0.03
City	2513 (83.9)	111 (91.7)	
Household annual income, No. (%)			
<100000 CNY	1005 (33.6)	3 (30.0)	0.35
100000-200000 CNY	1343 (44.8)	3 (30.0)	
>200000 CNY	647 (21.6)	4 (40.0)	
Paternal age, mean (SD), year	31.92 (4.67)	31.64 (5.56)	0.53
Paternal hypertension before pregnancy, No. (%)			
No	2985 (99.7)	122 (100.0)	>.99
Yes	10 (0.3)	0 (0.0)	
Paternal diabetes before pregnancy, No. (%)			
No	2989 (99.8)	122 (100.0)	>.99
Yes	6 (0.2)	0 (0.0)	
Mode of conception, No. (%)			

Spontaneously conceived	2500 (83.5)	120 (98.4)	<.001
ART	495 (16.5)	2 (1.6)	
Singleton, No. (%)			
Yes	2749 (91.8)	118 (96.7)	0.07
No	246 (8.2)	4 (3.3)	
Mode of delivery, No. (%)			
Natural delivery	1595 (53.4)	80 (65.6)	0.01
Cesarean section	1391 (46.6)	42 (34.4)	
Gestational week at birth, mean (SD), week	38.82 (1.65)	39.17 (1.34)	0.03
Birth weight, mean (SD), kilogram	3.31 (0.49)	3.42 (0.40)	0.01
Apgar score at 1 minute, No. (%)			
>7	2933 (99.6)	122 (100.0)	>.99
≤7	11 (0.4)	0 (0.0)	
Apgar score at 5 minutes, No. (%)			
>7	2910 (100.0)	121 (100.0)	NA
≤7	0 (0.0)	0 (0.0)	
Offspring sex, No. (%)			
Male	1554 (51.9)	75 (61.5)	0.05
Female	1441 (48.1)	47 (38.5)	
Offspring congenital abnormality, No. (%)			
No	2852 (95.5)	115 (95.8)	>.99
Yes	133 (4.5)	5 (4.2)	
Offspring head circumference, No. (%)			
<10 th centile	58 (3.5)	0 (0.0)	0.65
10 th -90 th centile	1476 (88.9)	21 (91.3)	
>90 th centile	127 (7.6)	2 (8.7)	
Offspring refractive error, No. (%)			
No	2484 (85.6)	97 (83.6)	0.65
Yes	418 (14.4)	19 (16.4)	
Offspring age, mean (SD), month	36.29 (0.74)	36.32 (0.65)	0.71

Abbreviations: HDP, hypertensive disorder of pregnancy; BMI, body mass index (calculated as weight in kilograms divided by height in meters squared); DIP, diabetes in pregnancy; CNY, Chinese Yuan; ART, assisted reproductive technology; NA, not available.

^a Including maternal age, paternal age, maternal educational level, maternal residence, household annual income, mode of conception, singleton, offspring sex, and offspring age.

^b Statistical significance was tested using an independent unpaired t test for continuous variables, and χ^2 or fisher exact test for categorical variables.

eTable 5. Comparisons of Characteristics Between Offspring With Complete and Incomplete Data of Covariates Adjusted in Model 3^a

Characteristic	With complete data (n=2883)	With incomplete data (n=234)	P value ^b
Outcome, No. (%)			
No	2546 (88.3)	203 (86.8)	0.55
Yes	337 (11.7)	31 (13.2)	
HDP, No. (%)			
No	2746 (95.2)	228 (97.4)	0.17
Yes	137 (4.8)	6 (2.6)	
Maternal age, mean (SD), year	30.43 (3.75)	30.01 (3.87)	0.11
Maternal prepregnancy BMI, No. (%)			
<24 kg/m ²	2390 (83.0)	194 (86.2)	0.26
≥24 kg/m ²	488 (17.0)	31 (13.8)	
Maternal alcohol consumption, No. (%)			
No	2821 (98.4)	222 (97.8)	0.68
Yes	46 (1.6)	5 (2.2)	
Maternal smoking, No. (%)			
No	2851 (99.4)	227 (100.0)	0.52
Yes	16 (0.6)	0 (0.0)	
Maternal DIP, No. (%)			
No	2123 (73.6)	182 (77.8)	0.19
Yes	760 (26.4)	52 (22.2)	
Parity, No. (%)			
Primipara	2359 (82.3)	192 (83.1)	0.83
Multipara	506 (17.7)	39 (16.9)	
Maternal education level, No. (%)			
≤12 years	298 (10.3)	14 (6.2)	0.07
>12 years	2585 (89.7)	210 (93.8)	
Maternal residence, No. (%)			
Country	465 (16.1)	27 (11.6)	0.08
City	2418 (83.9)	206 (88.4)	
Household annual income, No. (%)			
<100000 CNY	960 (33.3)	48 (39.3)	0.30
100000-200000 CNY	1299 (45.1)	47 (38.5)	
>200000 CNY	624 (21.6)	27 (22.1)	
Paternal age, mean (SD), year	31.92 (4.65)	31.67 (5.34)	0.43
Paternal hypertension before pregnancy, No. (%)			
No	2873 (99.7)	234 (100.0)	0.76
Yes	10 (0.3)	0 (0.0)	
Paternal diabetes before pregnancy, No. (%)			
No	2877 (99.8)	234 (100.0)	>.99
Yes	6 (0.2)	0 (0.0)	
Mode of conception, No. (%)			

Spontaneously conceived	2401 (83.3)	219 (93.6)	<.001
ART	482 (16.7)	15 (6.4)	
Singleton, No. (%)			
Yes	2647 (91.8)	220 (94.0)	0.29
No	236 (8.2)	14 (6.0)	
Mode of delivery, No. (%)			
Natural delivery	1531 (53.1)	144 (64.0)	0.002
Cesarean section	1352 (46.9)	81 (36.0)	
Gestational week at birth, mean (SD), week	38.82 (1.64)	39.11 (1.51)	0.01
Birth weight, mean (SD), kilogram	3.31 (0.48)	3.36 (0.47)	0.14
Apgar score at 1 minute, No. (%)			
>7	2827 (99.6)	228 (100.0)	0.71
≤7	11 (0.4)	0 (0.0)	
Apgar score at 5 minutes, No. (%)			
>7	2804 (100.0)	227 (100.0)	NA
≤7	0 (0.0)	0 (0.0)	
Offspring sex, No. (%)			
Male	1506 (52.2)	123 (52.6)	0.98
Female	1377 (47.8)	111 (47.4)	
Offspring congenital abnormality, No. (%)			
No	2754 (95.5)	213 (95.9)	0.90
Yes	129 (4.5)	9 (4.1)	
Offspring head circumference, No. (%)			
<10 th centile	56 (3.5)	2 (3.2)	0.83
10 th -90 th centile	1443 (89.0)	54 (87.1)	
>90 th centile	123 (7.6)	6 (9.7)	
Offspring refractive error, No. (%)			
No	2468 (85.6)	113 (83.7)	0.63
Yes	415 (14.4)	22 (16.3)	
Offspring age, mean (SD), month	36.30 (0.74)	36.22 (0.66)	0.10

Abbreviations: HDP, hypertensive disorder of pregnancy; BMI, body mass index (calculated as weight in kilograms divided by height in meters squared); DIP, diabetes in pregnancy; CNY, Chinese Yuan; ART, assisted reproductive technology; NA, not available.

^a Including maternal age, paternal age, maternal educational level, maternal residence, household annual income, mode of conception, singleton, offspring sex, offspring age, mode of delivery, gestational week at birth, birth weight, and offspring refractive error.

^b Statistical significance was tested using an independent unpaired t test for continuous variables, and χ^2 or Fisher exact test for categorical variables.

eTable 6. Relative Risks for the Association Between Maternal DIP and Overall and Specific Types of Strabismus in Offspring

Outcome, exposure	Outcome No./total No. (%)	Model 1		Model 2		Model 3	
		RR (95%CI)	P value	RR (95%CI)	P value	RR (95%CI)	P value
Overall strabismus							
Maternal DIP							
No	272/2305 (11.80)	Reference		Reference		Reference	
Yes	96/812 (11.82)	1(0.79,1.26)	0.99	0.97(0.76,1.24)	0.82	0.95(0.74,1.22)	0.68
Exophoria							
Maternal DIP							
No	197/2230 (8.83)	Reference		Reference		Reference	
Yes	63/779 (8.09)	0.92(0.69,1.22)	0.54	0.87(0.64,1.17)	0.36	0.86(0.63,1.17)	0.34
Intermittent exotropia							
Maternal DIP							
No	63/2096 (3.01)	Reference		Reference		Reference	
Yes	32/748 (4.28)	1.42(0.93,2.18)	0.10	1.48(0.95,2.3)	0.08	1.33(0.83,2.11)	0.23

Abbreviations: DIP, diabetes in pregnancy; RR, relative risk.

Model 1: Crude. Model 2: Adjusted for maternal age, paternal age, maternal educational level, maternal residence, household annual income, mode of conception, singleton, offspring sex, and offspring age. Model 3: Adjusted for maternal age, paternal age, maternal educational level, maternal residence, household annual income, mode of conception, singleton, offspring sex, offspring age, mode of delivery, gestational week at birth, birth weight, and offspring refractive error.

eTable 7. Relative Risks for the Association Between Maternal HDP and Overall and Specific Types of Strabismus Restricted to Offspring Without Exposure to Maternal Alcohol Consumption During Pregnancy

Outcome, exposure	Outcome No./total No. (%)	Model 1		Model 2		Model 3	
		RR (95%CI)	P value	RR (95%CI)	P value	RR (95%CI)	P value
All strabismus							
No maternal HDP	317/2904 (10.92)	Reference		Reference		Reference	
Maternal HDP	25/139 (17.99)	1.65(1.1,2.48)	0.02	1.75(1.14,2.67)	0.01	1.85(1.21,2.84)	0.005
Hypertension	12/77 (15.58)	1.43(0.8,2.54)	0.23	1.46(0.81,2.63)	0.20	1.52(0.84,2.74)	0.16
Preeclampsia	13/62 (20.97)	1.92(1.1,3.34)	0.02	2.15(1.21,3.83)	0.009	2.34(1.32,4.17)	0.004
Well controlled BP	4/31 (12.90)	1.18(0.44,3.17)	0.74	1.22(0.45,3.3)	0.69	1.25(0.46,3.38)	0.66
Poorly controlled BP	21/101 (20.79)	1.9(1.22,2.96)	0.004	2.01(1.27,3.17)	0.003	2.16(1.37,3.42)	0.001
Exophoria							
No maternal HDP	225/2812 (8.00)	Reference		Reference		Reference	
Maternal HDP	18/132 (13.64)	1.7(1.05,2.75)	0.03	1.91(1.16,3.14)	0.01	1.98(1.2,3.26)	0.008
Hypertension	7/71 (9.72)	1.22(0.57,2.58)	0.61	1.28(0.6,2.75)	0.52	1.32(0.61,2.84)	0.48
Preeclampsia	11/60 (18.33)	2.29(1.25,4.2)	0.007	2.81(1.49,5.29)	0.001	2.93(1.55,5.51)	0.001
Well controlled BP	3/30 (10.00)	1.25(0.4,3.9)	0.70	1.36(0.43,4.27)	0.60	1.34(0.43,4.23)	0.62
Poorly controlled BP	15/95 (15.79)	1.97(1.17,3.33)	0.01	2.19(1.28,3.76)	0.004	2.31(1.34,3.97)	0.002
Intermittent exotropia							
No maternal HDP	80/2667 (3.00)	Reference		Reference		Reference	
Maternal HDP	7/121 (5.79)	1.93(0.89,4.17)	0.10	1.76(0.78,3.96)	0.18	2.03(0.89,4.62)	0.09
Hypertension	5/70 (7.14)	2.38(0.97,5.87)	0.06	2.22(0.88,5.63)	0.09	2.43(0.95,6.23)	0.06
Preeclampsia	2/51 (3.92)	1.31(0.32,5.32)	0.71	1.13(0.27,4.78)	0.87	1.41(0.33,6.04)	0.64
Well controlled BP	1/28 (3.57)	1.19(0.17,8.55)	0.86	1.09(0.15,7.88)	0.93	1.27(0.17,9.21)	0.82
Poorly controlled BP	6/86 (6.98)	2.33(1.01,5.33)	0.05	2.09(0.88,5.01)	0.10	2.45(1.01,5.93)	0.05

Abbreviations: HDP, hypertensive disorder of pregnancy; RR, relative risk; BP, blood pressure.

Model 1: Crude. Model 2: Adjusted for maternal age, paternal age, maternal educational level, maternal residence, household annual income, mode of conception, singleton, offspring sex, and offspring age. Model 3: Adjusted for maternal age, paternal age, maternal educational level, maternal residence, household annual income, mode of conception, singleton, offspring sex, offspring age, mode of delivery, gestational week at birth, birth weight, and offspring refractive error.

eTable 8. Relative Risks for the Association Between Maternal HDP and Overall and Specific Types of Strabismus Restricted to Offspring Without Exposure to Maternal Smoking during Pregnancy

Outcome, exposure	Outcome No./total No. (%)	Model 1		Model 2		Model 3	
		RR (95%CI)	P value	RR (95%CI)	P value	RR (95%CI)	P value
All strabismus							
No maternal HDP	323/2939 (10.99)	Reference		Reference		Reference	
Maternal HDP	24/139 (17.27)	1.57(1.04,2.38)	0.03	1.67(1.09,2.58)	0.02	1.78(1.16,2.75)	0.009
Hypertension	12/78 (15.38)	1.4(0.79,2.49)	0.25	1.44(0.8,2.59)	0.22	1.51(0.84,2.72)	0.17
Preeclampsia	12/61 (19.67)	1.79(1.01,3.18)	0.05	2.01(1.11,3.66)	0.02	2.19(1.2,3.99)	0.01
Well controlled BP	3/31 (9.68)	0.88(0.28,2.74)	0.83	0.91(0.29,2.87)	0.88	0.94(0.3,2.94)	0.91
Poorly controlled BP	21/101 (20.79)	1.89(1.22,2.94)	0.005	2(1.27,3.16)	0.003	2.16(1.37,3.42)	0.001
Exophoria							
No maternal HDP	228/2844 (8.02)	Reference		Reference		Reference	
Maternal HDP	17/132 (12.88)	1.61(0.98,2.63)	0.06	1.8(1.08,3)	0.02	1.87(1.12,3.13)	0.02
Hypertension	7/73 (9.59)	1.2(0.56,2.54)	0.64	1.26(0.59,2.71)	0.55	1.32(0.61,2.83)	0.48
Preeclampsia	10/59 (16.95)	2.11(1.12,3.98)	0.02	2.59(1.34,5.02)	0.005	2.7(1.39,5.22)	0.003
Well controlled BP	2/30 (6.67)	0.83(0.21,3.35)	0.80	0.9(0.22,3.66)	0.89	0.9(0.22,3.63)	0.88
Poorly controlled BP	15/95 (15.79)	1.97(1.17,3.32)	0.01	2.18(1.27,3.74)	0.005	2.32(1.35,3.99)	0.002
Intermittent exotropia							
No maternal HDP	83/2699 (3.08)	Reference		Reference		Reference	
Maternal HDP	7/122 (5.74)	1.87(0.86,4.03)	0.11	1.73(0.77,3.91)	0.18	2(0.88,4.54)	0.10
Hypertension	5/71 (7.04)	2.29(0.93,5.64)	0.07	2.18(0.86,5.5)	0.10	2.38(0.93,6.09)	0.07
Preeclampsia	2/51 (3.92)	1.28(0.31,5.18)	0.73	1.12(0.26,4.77)	0.87	1.4(0.33,5.99)	0.65
Well controlled BP	1/29 (3.45)	1.12(0.16,8.05)	0.91	1.05(0.14,7.58)	0.96	1.2(0.17,8.73)	0.86
Poorly controlled BP	6/86 (6.98)	2.27(0.99,5.19)	0.05	2.09(0.87,4.98)	0.10	2.45(1.02,5.91)	0.05

Abbreviations: HDP, hypertensive disorder of pregnancy; RR, relative risk; BP, blood pressure.

Model 1: Crude. Model 2: Adjusted for maternal age, paternal age, maternal educational level, maternal residence, household annual income, mode of conception, singleton, offspring sex, and offspring age. Model 3: Adjusted for maternal age, paternal age, maternal educational level, maternal residence, household annual income, mode of conception, singleton, offspring sex, offspring age, mode of delivery, gestational week at birth, birth weight, and offspring refractive error.

eTable 9. Relative Risks for the Association Between Maternal HDP and Overall and Specific Types of Strabismus Restricted to Offspring With Normal Apgar Score

Outcome, exposure	Outcome No./total No. (%)	Model 1		Model 2		Model 3	
		RR (95%CI)	P value	RR (95%CI)	P value	RR (95%CI)	P value
All strabismus							
No maternal HDP	334/2884 (11.58)	Reference		Reference		Reference	
Maternal HDP	28/137 (20.44)	1.76(1.2,2.6)	0.004	1.74(1.16,2.61)	0.008	1.86(1.24,2.8)	0.003
Hypertension	12/72 (16.67)	1.44(0.81,2.56)	0.22	1.43(0.8,2.56)	0.23	1.5(0.83,2.69)	0.18
Preeclampsia	16/65 (24.62)	2.13(1.29,3.51)	0.003	2.12(1.24,3.65)	0.006	2.33(1.36,4.01)	0.002
Well controlled BP	5/33 (15.15)	1.31(0.54,3.16)	0.55	1.33(0.54,3.23)	0.53	1.37(0.56,3.34)	0.49
Poorly controlled BP	23/103 (22.33)	1.93(1.26,2.94)	0.002	1.89(1.21,2.95)	0.005	2.05(1.31,3.2)	0.002
Exophoria							
No maternal HDP	235/2785 (8.44)	Reference		Reference		Reference	
Maternal HDP	19/128 (14.84)	1.76(1.1,2.81)	0.02	1.81(1.1,2.97)	0.02	1.9(1.16,3.12)	0.01
Hypertension	7/67 (10.45)	1.24(0.58,2.63)	0.58	1.26(0.59,2.7)	0.55	1.32(0.61,2.83)	0.48
Preeclampsia	12/61 (19.67)	2.33(1.31,4.16)	0.004	2.54(1.35,4.78)	0.004	2.68(1.42,5.05)	0.002
Well controlled BP	3/31 (9.68)	1.15(0.37,3.58)	0.81	1.25(0.4,3.94)	0.70	1.25(0.4,3.95)	0.70
Poorly controlled BP	16/96 (16.67)	1.98(1.19,3.28)	0.008	2.01(1.17,3.44)	0.01	2.14(1.25,3.68)	0.006
Intermittent exotropia							
No maternal HDP	86/2636 (3.26)	Reference		Reference		Reference	
Maternal HDP	9/118 (7.63)	2.34(1.18,4.64)	0.02	2.02(0.98,4.16)	0.06	2.35(1.13,4.89)	0.02
Hypertension	5/65 (7.69)	2.36(0.96,5.81)	0.06	2.17(0.86,5.45)	0.10	2.41(0.95,6.11)	0.07
Preeclampsia	4/53 (7.55)	2.31(0.85,6.3)	0.10	1.84(0.64,5.28)	0.26	2.28(0.79,6.61)	0.13
Well controlled BP	2/30 (6.67)	2.04(0.5,8.3)	0.32	1.82(0.44,7.47)	0.41	2.13(0.52,8.8)	0.30
Poorly controlled BP	7/87 (8.05)	2.47(1.14,5.33)	0.02	2.1(0.93,4.71)	0.07	2.45(1.07,5.57)	0.03

Abbreviations: HDP, hypertensive disorder of pregnancy; RR, relative risk; BP, blood pressure.

Model 1: Crude. Model 2: Adjusted for maternal age, paternal age, maternal educational level, maternal residence, household annual income, mode of conception, singleton, offspring sex, and offspring age. Model 3: Adjusted for maternal age, paternal age, maternal educational level, maternal residence, household annual income, mode of conception, singleton, offspring sex, offspring age, mode of delivery, gestational week at birth, birth weight, and offspring refractive error.

eTable 10. Relative Risks for the Association Between Maternal HDP and Overall and Specific Types of Strabismus Restricted to Offspring Without Congenital Abnormality

Outcome, exposure	Outcome No./total No. (%)	Model 1		Model 2		Model 3	
		RR (95%CI)	P value	RR (95%CI)	P value	RR (95%CI)	P value
All strabismus							
No maternal HDP	323/2834 (11.40)	Reference		Reference		Reference	
Maternal HDP	27/133 (20.30)	1.78(1.2,2.64)	0.004	1.74(1.15,2.63)	0.009	1.83(1.2,2.77)	0.005
Hypertension	11/74 (14.86)	1.3(0.72,2.38)	0.39	1.32(0.72,2.42)	0.38	1.37(0.75,2.53)	0.31
Preeclampsia	16/59 (27.12)	2.38(1.44,3.93)	0.001	2.3(1.34,3.96)	0.002	2.43(1.42,4.19)	0.001
Well controlled BP	4/31 (12.90)	1.13(0.42,3.03)	0.81	1.14(0.42,3.06)	0.80	1.17(0.43,3.16)	0.75
Poorly controlled BP	23/97 (23.71)	2.08(1.36,3.18)	0.001	2.01(1.28,3.14)	0.002	2.12(1.36,3.32)	0.001
Exophoria							
No maternal HDP	230/2741 (8.39)	Reference		Reference		Reference	
Maternal HDP	18/124 (14.52)	1.73(1.07,2.79)	0.03	1.74(1.04,2.89)	0.03	1.79(1.07,2.98)	0.03
Hypertension	6/69 (8.70)	1.04(0.46,2.33)	0.93	1.07(0.47,2.43)	0.87	1.11(0.49,2.53)	0.80
Preeclampsia	12/55 (21.82)	2.6(1.46,4.65)	0.001	2.68(1.42,5.04)	0.002	2.72(1.44,5.12)	0.002
Well controlled BP	2/29 (6.90)	0.82(0.2,3.31)	0.78	0.88(0.22,3.55)	0.85	0.87(0.22,3.54)	0.85
Poorly controlled BP	16/90 (17.78)	2.12(1.28,3.52)	0.004	2.09(1.22,3.58)	0.007	2.17(1.27,3.73)	0.005
Intermittent exotropia							
No maternal HDP	82/2593 (3.16)	Reference		Reference		Reference	
Maternal HDP	9/115 (7.83)	2.47(1.24,4.92)	0.01	2.2(1.06,4.57)	0.03	2.57(1.23,5.38)	0.01
Hypertension	5/68 (7.35)	2.33(0.94,5.73)	0.07	2.21(0.88,5.59)	0.09	2.5(0.98,6.38)	0.06
Preeclampsia	4/47 (8.51)	2.69(0.99,7.34)	0.05	2.19(0.76,6.29)	0.15	2.67(0.92,7.74)	0.07
Well controlled BP	2/29 (6.90)	2.18(0.54,8.86)	0.28	1.98(0.48,8.18)	0.34	2.34(0.56,9.68)	0.24
Poorly controlled BP	7/81 (8.64)	2.73(1.26,5.91)	0.01	2.41(1.07,5.42)	0.03	2.82(1.24,6.4)	0.01

Abbreviations: HDP, hypertensive disorder of pregnancy; RR, relative risk; BP, blood pressure.

Model 1: Crude. Model 2: Adjusted for maternal age, paternal age, maternal educational level, maternal residence, household annual income, mode of conception, singleton, offspring sex, and offspring age. Model 3: Adjusted for maternal age, paternal age, maternal educational level, maternal residence, household annual income, mode of conception, singleton, offspring sex, offspring age, mode of delivery, gestational week at birth, birth weight, and offspring refractive error.

eTable 11. Relative Risks for the Association Between Maternal HDP and Overall and Specific Types of Strabismus Restricted to Offspring With Normal Head Circumference

Outcome, exposure	Outcome No./total No. (%)	Model 1		Model 2		Model 3	
		RR (95%CI)	P value	RR (95%CI)	P value	RR (95%CI)	P value
All strabismus							
No maternal HDP	153/1442 (10.61)	Reference		Reference		Reference	
Maternal HDP	12/55 (21.82)	2.06(1.14,3.7)	0.01	1.83(0.98,3.43)	0.06	1.96(1.04,3.71)	0.04
Hypertension	5/30 (16.67)	1.57(0.64,3.83)	0.32	1.42(0.58,3.51)	0.45	1.53(0.61,3.8)	0.36
Preeclampsia	7/25 (28.00)	2.64(1.24,5.63)	0.01	2.4(1.04,5.55)	0.04	2.57(1.11,5.96)	0.03
Well controlled BP	1/14 (7.14)	0.67(0.09,4.81)	0.69	0.58(0.08,4.17)	0.56	0.62(0.08,4.47)	0.63
Poorly controlled BP	11/41 (26.83)	2.53(1.37,4.66)	0.003	2.33(1.21,4.49)	0.01	2.51(1.29,4.87)	0.007
Exophoria							
No maternal HDP	104/1393 (7.47)	Reference		Reference		Reference	
Maternal HDP	9/52 (17.31)	2.32(1.17,4.58)	0.02	2.1(1,4.4)	0.05	2.21(1.05,4.68)	0.04
Hypertension	3/28 (10.71)	1.44(0.46,4.52)	0.54	1.29(0.4,4.14)	0.67	1.37(0.42,4.42)	0.60
Preeclampsia	6/24 (25.00)	3.35(1.47,7.63)	0.004	3.35(1.34,8.36)	0.01	3.47(1.38,8.74)	0.008
Well controlled BP	1/14 (7.14)	0.96(0.13,6.86)	0.97	0.84(0.11,6.12)	0.86	0.88(0.12,6.43)	0.90
Poorly controlled BP	8/38 (21.05)	2.82(1.37,5.79)	0.005	2.66(1.22,5.83)	0.01	2.81(1.27,6.21)	0.01
Intermittent exotropia							
No maternal HDP	47/1336 (3.52)	Reference		Reference		Reference	
Maternal HDP ^a	3/46 (6.52)	1.85(0.58,5.95)	0.30	1.54(0.46,5.18)	0.49	1.71(0.49,5.89)	0.40
Hypertension	2/27 (7.41)	2.11(0.51,8.66)	0.30	1.9(0.45,8)	0.38	2.21(0.51,9.47)	0.29
Preeclampsia	1/19 (5.26)	1.5(0.21,10.84)	0.69	1.08(0.14,8.57)	0.94	1.13(0.14,9.25)	0.91

Abbreviations: HDP, hypertensive disorder of pregnancy; RR, Relative Risk; BP, blood pressure.

Model 1: Crude. Model 2: Adjusted for maternal age, paternal age, maternal educational level, maternal residence, household annual income, mode of conception, singleton, offspring sex, and offspring age. Model 3: Adjusted for maternal age, paternal age, maternal educational level, maternal residence, household annual income, mode of conception, singleton, offspring sex, offspring age, mode of

delivery, gestational week at birth, birth weight, and offspring refractive error.

^a Maternal HDP was not categorized into with BP well controlled and poorly controlled due to small number.

eTable 12. Relative Risks for the Association Between Maternal HDP and Overall and Specific Types of Strabismus Restricted to Offspring Born to Primipara

Outcome, exposure	Outcome No./total No. (%)	Model 1		Model 2		Model 3	
		RR (95%CI)	P value	RR (95%CI)	P value	RR (95%CI)	P value
All strabismus							
No maternal HDP	267/2433 (10.97)	Reference		Reference		Reference	
Maternal HDP	21/118 (17.80)	1.62(1.04,2.53)	0.03	1.8(1.13,2.86)	0.01	1.88(1.18,3)	0.008
Hypertension	9/64 (14.06)	1.28(0.66,2.49)	0.46	1.41(0.72,2.76)	0.32	1.43(0.73,2.82)	0.30
Preeclampsia	12/54 (22.22)	2.02(1.14,3.61)	0.02	2.3(1.26,4.2)	0.006	2.48(1.36,4.53)	0.003
Well controlled BP	4/27 (14.81)	1.35(0.5,3.62)	0.55	1.5(0.56,4.07)	0.42	1.52(0.56,4.1)	0.41
Poorly controlled BP	17/84 (20.24)	1.84(1.13,3.01)	0.01	2.01(1.21,3.33)	0.007	2.13(1.28,3.55)	0.004
Exophoria							
No maternal HDP	188/2354 (7.99)	Reference		Reference		Reference	
Maternal HDP	14/111 (12.61)	1.58(0.92,2.72)	0.10	1.83(1.04,3.21)	0.04	1.88(1.07,3.32)	0.03
Hypertension	4/59 (6.78)	0.85(0.32,2.29)	0.75	0.95(0.35,2.58)	0.92	0.97(0.36,2.65)	0.96
Preeclampsia	10/52 (19.23)	2.41(1.27,4.55)	0.007	2.96(1.52,5.74)	0.001	3.05(1.57,5.93)	0.001
Well controlled BP	3/26 (11.54)	1.44(0.46,4.52)	0.53	1.67(0.53,5.26)	0.38	1.64(0.52,5.19)	0.40
Poorly controlled BP	11/78 (14.10)	1.77(0.96,3.24)	0.07	2(1.07,3.74)	0.03	2.09(1.11,3.93)	0.02
Intermittent exotropia							
No maternal HDP	68/2234 (3.04)	Reference		Reference		Reference	
Maternal HDP	7/104 (6.73)	2.21(1.02,4.81)	0.05	2.23(0.98,5.1)	0.06	2.54(1.09,5.88)	0.03
Hypertension	5/60 (8.33)	2.74(1.1,6.79)	0.03	2.89(1.13,7.39)	0.03	3.03(1.16,7.92)	0.02
Preeclampsia	2/44 (4.55)	1.49(0.37,6.09)	0.58	1.39(0.32,5.94)	0.66	1.78(0.41,7.69)	0.44
Well controlled BP	1/24 (4.17)	1.37(0.19,9.85)	0.76	1.36(0.19,9.91)	0.76	1.56(0.21,11.43)	0.66
Poorly controlled BP	6/73 (8.22)	2.7(1.17,6.22)	0.02	2.71(1.12,6.55)	0.03	3.14(1.28,7.75)	0.01

Abbreviations: HDP, hypertensive disorder of pregnancy; RR, relative risk; BP, blood pressure.

Model 1: Crude. Model 2: Adjusted for maternal age, paternal age, maternal educational level, maternal residence, household annual income, mode of conception, singleton, offspring sex, and offspring age. Model 3: Adjusted for maternal age, paternal age, maternal educational level, maternal residence, household annual income, mode of conception, singleton, offspring sex, offspring age, mode of delivery, gestational week at birth, birth weight, and offspring refractive error.

eTable 13. Relative Risks for the Association Between Maternal HDP and Overall and Specific Types of Strabismus Restricted to Term-born Children of Normal Birth Weight

Outcome, exposure	Outcome No./total No. (%)	Model 1		Model 2		Model 3	
		RR (95%CI)	P value	RR (95%CI)	P value	RR (95%CI)	P value
All strabismus							
No maternal HDP	318/2729 (11.65)	Reference		Reference		Reference	
Maternal HDP	23/97 (23.71)	2.03(1.33,3.11)	0.001	1.88(1.21,2.93)	0.005	1.97(1.26,3.08)	0.003
Hypertension	11/61 (18.03)	1.55(0.85,2.82)	0.15	1.46(0.79,2.69)	0.23	1.52(0.82,2.81)	0.18
Preeclampsia	12/36 (33.33)	2.86(1.61,5.09)	<.001	2.61(1.42,4.81)	0.002	2.78(1.51,5.12)	0.001
Well controlled BP	3/28 (10.71)	0.92(0.29,2.87)	0.89	0.88(0.28,2.78)	0.83	0.91(0.29,2.88)	0.88
Poorly controlled BP	20/68 (29.41)	2.52(1.61,3.97)	<.001	2.3(1.43,3.68)	0.001	2.43(1.52,3.91)	<.001
Exophoria							
No maternal HDP	226/2637 (8.57)	Reference		Reference		Reference	
Maternal HDP	16/90 (17.78)	2.07(1.25,3.44)	0.005	2.01(1.18,3.42)	0.01	2.06(1.21,3.51)	0.008
Hypertension	7/57 (12.28)	1.43(0.68,3.04)	0.35	1.41(0.66,3.02)	0.38	1.46(0.68,3.13)	0.33
Preeclampsia	9/33 (27.27)	3.18(1.63,6.2)	0.001	3.15(1.54,6.43)	0.002	3.17(1.55,6.49)	0.002
Well controlled BP	2/27 (7.41)	0.86(0.21,3.48)	0.84	0.93(0.23,3.78)	0.92	0.93(0.23,3.76)	0.91
Poorly controlled BP	14/62 (22.58)	2.63(1.54,4.52)	<.001	2.46(1.4,4.34)	0.002	2.56(1.45,4.52)	0.001
Intermittent exotropia							
No maternal HDP	79/2490 (3.17)	Reference		Reference		Reference	
Maternal HDP	7/81 (8.64)	2.72(1.26,5.9)	0.01	2.16(0.97,4.84)	0.06	2.44(1.08,5.49)	0.03
Hypertension	4/54 (7.41)	2.33(0.86,6.37)	0.10	1.9(0.67,5.35)	0.23	1.98(0.69,5.64)	0.20
Preeclampsia	3/27 (11.11)	3.5(1.11,11.08)	0.03	2.65(0.82,8.61)	0.11	3.45(1.06,11.2)	0.04
Well controlled BP	126 (3.85)	1.21(0.17,8.71)	0.85	0.95(0.13,6.91)	0.96	1.07(0.15,7.85)	0.95
Poorly controlled BP	6/54 (11.11)	3.5(1.53,8.03)	0.003	2.77(1.17,6.56)	0.02	3.14(1.32,7.49)	0.01

Abbreviations: HDP, hypertensive disorder of pregnancy; RR, relative risk; BP, blood pressure.

Model 1: Crude. Model 2: Adjusted for maternal age, paternal age, maternal educational level, maternal residence, household annual income, mode of conception, singleton, offspring sex, and offspring age. Model 3: Adjusted for maternal age, paternal age, maternal educational level, maternal residence, household annual income, mode of conception, singleton, offspring sex, offspring age, mode of delivery, gestational week at birth, birth weight, and offspring refractive error.

eTable 14. Relative Risks for the Association Between Maternal HDP and Overall and Specific Types of Strabismus after Excluding Children With Exposure to Paternal Hypertension or Diabetes before Pregnancy

Outcome, exposure	Outcome No./total No. (%)	Model 1		Model 2		Model 3	
		RR (95%CI)	P value	RR (95%CI)	P value	RR (95%CI)	P value
All strabismus							
No maternal HDP	336/2958 (11.36)	Reference		Reference		Reference	
Maternal HDP	28/143 (19.58)	1.72(1.17,2.53)	0.006	1.71(1.14,2.58)	0.01	1.83(1.21,2.76)	0.004
Hypertension	12/124 (9.68)	1.35(0.76,2.41)	0.30	1.36(0.76,2.45)	0.30	1.42(0.79,2.56)	0.24
Preeclampsia	16/65 (24.62)	2.17(1.31,3.58)	0.003	2.18(1.27,3.74)	0.005	2.4(1.4,4.11)	0.001
Well controlled BP	5/33 (15.15)	1.33(0.55,3.23)	0.52	1.36(0.56,3.32)	0.49	1.41(0.58,3.43)	0.45
Poorly controlled BP	23/103 (22.33)	1.97(1.29,3)	0.002	1.93(1.23,3.01)	0.004	2.09(1.33,3.26)	0.001
Exophoria							
No maternal HDP	238/2860 (8.32)	Reference		Reference		Reference	
Maternal HDP	19/134 (14.18)	1.7(1.07,2.72)	0.03	1.75(1.07,2.88)	0.03	1.84(1.11,3.02)	0.02
Hypertension	7/73 (9.59)	1.15(0.54,2.44)	0.71	1.19(0.56,2.54)	0.66	1.23(0.57,2.64)	0.59
Preeclampsia	12/61 (19.67)	2.36(1.32,4.22)	0.004	2.55(1.36,4.8)	0.004	2.7(1.44,5.07)	0.002
Well controlled BP	3/31 (9.68)	1.16(0.37,3.63)	0.80	1.26(0.4,3.98)	0.69	1.26(0.4,3.96)	0.70
Poorly controlled BP	16/96 (16.67)	2(1.21,3.32)	0.007	2.01(1.18,3.45)	0.01	2.14(1.25,3.68)	0.006
Intermittent exotropia							
No maternal HDP	85/2707 (3.14)	Reference		Reference		Reference	
Maternal HDP	9/124 (7.26)	2.31(1.16,4.59)	0.02	2.06(0.99,4.26)	0.05	2.39(1.14,4.99)	0.02
Hypertension	5/71 (7.04)	2.24(0.91,5.52)	0.08	2.1(0.84,5.3)	0.11	2.3(0.9,5.85)	0.08
Preeclampsia	4/53 (7.55)	2.4(0.88,6.55)	0.09	2(0.7,5.72)	0.20	2.52(0.87,7.29)	0.09
Well controlled BP	2/30 (6.67)	2.12(0.52,8.62)	0.29	1.94(0.47,7.97)	0.36	2.28(0.55,9.42)	0.25
Poorly controlled BP	7/87 (8.05)	2.56(1.19,5.54)	0.02	2.25(1,5.05)	0.05	2.65(1.17,6.02)	0.02

Abbreviations: HDP, hypertensive disorder of pregnancy; RR, relative risk; BP, blood pressure.

Model 1: Crude. Model 2: Adjusted for maternal age, paternal age, maternal educational level, maternal residence, household annual income, mode of conception, singleton, offspring sex, and offspring age. Model 3: Adjusted for maternal age, paternal age, maternal educational level, maternal residence, household annual income, mode of conception, singleton, offspring sex, offspring age, mode of delivery, gestational week at birth, birth weight, and offspring refractive error.

eTable 15. Relative Risks for the Association Between Maternal HDP and Overall and Specific Types of Strabismus Restricted to Children Born to Mothers With Prepregnancy BMI <24

Outcome, exposure	Outcome No./total No. (%)	Model 1		Model 2		Model 3	
		RR (95%CI)	P value	RR (95%CI)	P value	RR (95%CI)	P value
All strabismus							
No maternal HDP	284/2500 (11.36)	Reference		Reference		Reference	Reference
Maternal HDP	17/84 (20.24)	1.78(1.09,2.91)	0.02	1.85(1.11,3.09)	0.02	2.02(1.21,3.37)	0.007
Hypertension	4/35 (11.43)	1.01(0.37,2.7)	0.99	1.01(0.37,2.72)	0.99	1.07(0.39,2.89)	0.90
Preeclampsia	13/49 (26.53)	2.34(1.34,4.07)	0.003	2.54(1.41,4.56)	0.002	2.83(1.58,5.07)	<0.001
Well controlled BP	2/21 (9.52)	0.84(0.21,3.37)	0.80	0.85(0.21,3.41)	0.81	0.86(0.21,3.46)	0.83
Poorly controlled BP	15/61 (24.59)	2.16(1.29,3.64)	0.004	2.28(1.32,3.93)	0.003	2.56(1.48,4.41)	0.001
Exophoria							
No maternal HDP	204/2420 (8.43)	Reference		Reference		Reference	
Maternal HDP	10/77 (12.99)	1.54(0.82,2.91)	0.18	1.69(0.87,3.26)	0.12	1.78(0.92,3.44)	0.09
Hypertension	1/32 (3.13)	0.37(0.05,2.64)	0.32	0.38(0.05,2.75)	0.34	0.4(0.06,2.88)	0.36
Preeclampsia	9/45 (20.00)	2.37(1.22,4.63)	0.01	2.78(1.38,5.61)	0.004	2.94(1.46,5.92)	0.003
Well controlled BP	1/20 (5.00)	0.59(0.08,4.23)	0.60	0.63(0.09,4.54)	0.65	0.61(0.08,4.37)	0.62
Poorly controlled BP	9/55 (16.36)	1.94(1,3.78)	0.05	2.15(1.07,4.3)	0.03	2.34(1.17,4.69)	0.02
Intermittent exotropia							
No maternal HDP	69/2285 (3.02)	Reference		Reference		Reference	
Maternal HDP	7/74 (9.46)	3.13(1.44,6.81)	0.004	2.95(1.28,6.79)	0.01	3.9(1.69,9.03)	0.001
Hypertension	3/34 (8.82)	2.92(0.92,9.28)	0.07	2.85(0.88,9.26)	0.08	3.42(1.04,11.2)	0.04
Preeclampsia	4/40 (10.00)	3.31(1.21,9.07)	0.02	3.04(1.03,8.94)	0.04	4.41(1.5,12.97)	0.007
Well controlled BP	1/20 (5.00)	1.66(0.23,11.91)	0.62	1.56(0.21,11.38)	0.66	1.93(0.26,14.12)	0.52
Poorly controlled BP	6/52 (11.54)	3.82(1.66,8.79)	0.002	3.63(1.47,8.99)	0.005	4.99(2.01,12.41)	0.001

Abbreviations: HDP, hypertensive disorder of pregnancy; RR, Relative Risk; BP, blood pressure; BMI, body mass index (calculated as weight in kilograms divided by height in meters squared).

Model 1: Crude. Model 2: Adjusted for maternal age, paternal age, maternal educational level, maternal residence, household annual income, mode of conception, singleton, offspring sex, and offspring age. Model 3: Adjusted for maternal age, paternal age, maternal educational level, maternal residence, household annual income, mode of conception, singleton, offspring sex, offspring age, mode of delivery, gestational week at birth, birth weight, and offspring refractive error.

eTable 16. Relative Risks for the Association Between Maternal HDP and Overall and Specific Types of Strabismus after PSM

Outcome, exposure	Outcome No./total No. (%)	Model 1		Model 2		Model 3	
		RR (95%CI)	P value	RR (95%CI)	P value	RR (95%CI)	P value
All strabismus							
No maternal HDP	60/540 (11.11)	Reference		Reference		Reference	
Maternal HDP	27/137 (19.71)	1.77(1.13,2.79)	0.013	1.76(1.11,2.77)	0.02	1.79(1.13,2.84)	0.01
Hypertension	12/77 (15.58)	1.4(0.75,2.61)	0.285	1.38(0.74,2.59)	0.31	1.4(0.75,2.63)	0.30
Preeclampsia	15/60 (25.00)	2.25(1.28,3.96)	0.005	2.24(1.25,4.02)	0.006	2.33(1.29,4.18)	0.005
Well controlled BP	5/33 (15.15)	1.36(0.55,3.4)	0.505	1.43(0.57,3.58)	0.45	1.43(0.57,3.6)	0.45
Poorly controlled BP	22/97 (22.68)	2.04(1.25,3.33)	0.004	1.97(1.2,3.22)	0.007	2.03(1.24,3.32)	0.005
Exophoria							
No maternal HDP	42/522 (8.05)	Reference		Reference		Reference	
Maternal HDP	18/128 (14.06)	1.75(1.01,3.04)	0.047	1.74(1,3.03)	0.05	1.75(1,3.05)	0.05
Hypertension	7/72 (9.72)	1.21(0.54,2.69)	0.643	1.17(0.52,2.63)	0.70	1.18(0.52,2.65)	0.69
Preeclampsia	11/56 (19.64)	2.44(1.26,4.74)	0.008	2.52(1.27,5)	0.008	2.53(1.27,5.05)	0.008
Well controlled BP	3/31 (9.68)	1.2(0.37,3.88)	0.757	1.31(0.4,4.29)	0.65	1.28(0.39,4.19)	0.68
Poorly controlled BP	15/90 (16.67)	2.07(1.15,3.74)	0.015	1.99(1.1,3.61)	0.02	2.01(1.11,3.65)	0.02
Intermittent exotropia							
No maternal HDP	16/496 (3.23)	Reference		Reference		Reference	
Maternal HDP	9/119 (7.56)	2.34(1.04,5.3)	0.041	2.24(0.98,5.13)	0.06	2.56(1.1,5.93)	0.03
Hypertension	5/70 (7.14)	2.21(0.81,6.04)	0.121	2.3(0.83,6.36)	0.11	2.7(0.95,7.66)	0.06
Preeclampsia	4/49 (8.16)	2.53(0.85,7.57)	0.097	2.18(0.7,6.78)	0.18	2.39(0.76,7.56)	0.14
Well controlled BP	2/30 (6.67)	2.07(0.48,8.99)	0.333	1.9(0.43,8.43)	0.40	2.05(0.45,9.36)	0.36
Poorly controlled BP	7/82 (8.54)	2.65(1.09,6.43)	0.032	2.53(1.03,6.22)	0.04	2.99(1.2,7.45)	0.02

Abbreviations: HDP, hypertensive disorder of pregnancy; RR, relative risk; BP, blood pressure; PSM, propensity score matching.

Model 1: Crude. Model 2: Adjusted for maternal age, paternal age, maternal educational level, maternal residence, household annual income, mode of conception, singleton, offspring sex, and offspring age. Model 3: Adjusted for maternal age, paternal age, maternal educational level, maternal residence, household annual income, mode of conception, singleton, offspring sex, offspring age, mode of delivery, gestational week at birth, birth weight, and offspring refractive error.

eTable 17. Direct Comparisons of Overall Strabismus Risk in Offspring Between Different HDP Types, BP Control Levels, or Their Combinations

Exposure	Outcome No./total No. (%)	Model 1		Model 2		Model 3	
		RR (95%CI)	P value	RR (95%CI)	P value	RR (95%CI)	P value
Type of maternal HDP							
Hypertension	12/78 (15.38)	Reference		Reference		Reference	
Preeclampsia	16/65 (24.62)	1.6(0.76,3.38)	0.22	1.64(0.7,3.82)	0.26	1.64(0.68,3.92)	0.27
BP control level of maternal HDP							
Well controlled BP	5/33 (15.15)	Reference		Reference		Reference	
Poorly controlled BP	23/103 (22.33)	1.47(0.56,3.88)	0.43	1.26(0.46,3.43)	0.65	1.28(0.46,3.57)	0.63
Combinations of type and BP control level							
Hypertension and well controlled BP	3/24 (12.50)	Reference		Reference		Reference	
Hypertension and poorly controlled BP	9/47 (19.15)	1.53(0.41,5.66)	0.52	1.32(0.34,5.11)	0.69	1.26(0.31,5.13)	0.74
Preeclampsia and well controlled BP	2/9 (22.22)	1.78(0.3,10.64)	0.53	1.7(0.24,12.02)	0.60	1.52(0.21,11.18)	0.68
Preeclampsia and poorly controlled BP	14/56 (25.00)	2(0.57,6.96)	0.28	1.75(0.45,6.75)	0.42	1.75(0.45,6.86)	0.42

Abbreviations: HDP, hypertensive disorder of pregnancy; RR, relative risk; BP, blood pressure.

Model 1: Crude. Model 2: Adjusted for maternal age, paternal age, maternal educational level, maternal residence, household annual income, mode of conception, singleton, offspring sex, and offspring age. Model 3: Adjusted for maternal age, paternal age, maternal educational level, maternal residence, household annual income, mode of conception, singleton, offspring sex, offspring age, mode of delivery, gestational week at birth, birth weight, and offspring refractive error.

