

Table 1. Pregnancy Characteristics of the Study Population by Parity

	First Birth (n=15,065)	Second Birth (n=13,310)	Third Birth (n= 6,576)
Mean age, years (SD)	23.0 (4.1)	26.4 (4.2)	29.8 (4.2)
Mean gestational age, weeks* (SD)	39.9 (2.3)	39.9 (2.2)	39.8 (2.1)
Delivery*			
After 37 weeks	14256 (94.3%)	12750 (95.8%)	6308 (95.9%)
34-37 weeks	525 (3.5%)	371 (2.8%)	178 (2.7 %)
Before 34 weeks	284 (1.9 %)	189 (1.4%)	90 (1.4%)
Mean birth weight in kg [†] (SD)	3.4 (0.6)	3.6 (0.6)	3.6 (0.6)
Preeclampsia	661 (4.4%)	261 (2.0%)	129 (2.0%)
At or after 37 weeks	572 (3.8%)	229 (1.7%)	108 (1.6%)
34-37 weeks	58 (0.4%)	17 (0.1%)	11 (0.2%)
Before 34 weeks	31 (0.2%)	15 (0.1%)	10 (0.2%)
Gestational hypertension			
No	14744 (97.7%)	13111 (98.5%)	6458 (98.2%)
Yes	321 (2.1%)	199 (1.5%)	118 (1.8%)

SD, standard deviation.

*Missing data for gestational age in 775 first deliveries, 819 second deliveries, and 428 third deliveries;

[†]Missing data on birth weight for 13 first deliveries, seven second deliveries and four third deliveries.

Table 2. Mean Diastolic Blood Pressure at Follow-up (HUNT 2 1995-97) According to Hypertensive Disorders in Earlier Pregnancies

		Diastolic Blood Pressure (mmHg)					
		Crude Model	Adjusted Model		Adjusted Model, Including BMI		
Hypertensive Disorders	n	Age-Adjusted Mean ¹	Mean [*]	95% CI	BMI-Adjusted Mean ^{*,†}	95% CI	P
Preeclampsia among women with one or more births							
No preeclampsia in first pregnancy	14,404	76.5	77.9	77.4-78.5	77.9	77.3-78.4	ref
Preeclampsia in first pregnancy	661	81.4	82.8	81.8-83.7	81.7	80.8-82.6	<0.001
Preeclampsia among women with two or more births							
No preeclampsia in first and second pregnancy	12,573	76.6	77.9	77.3-78.5	77.9	77.3-78.4	ref
First pregnancy only	476	80.4	81.7	80.7-82.7	80.9	79.9-81.9	<0.001
Second pregnancy only	177	81.8	83.2	81.7-84.7	82.5	81.0-83.9	<0.001
First and second pregnancy	84	84.1	85.6	83.5-87.8	84.7	82.6-86.8	<0.001
Preeclampsia among women with three or more births ^{††}							
No preeclampsia during first through third pregnancy	6,142	76.3	77.3	76.4-78.1	77.3	76.4-78.1	ref
First pregnancy only	203	80.1	81.0	79.5-82.5	80.4	78.8-81.9	<0.001
Second pregnancy only	73	80.2	81.1	78.8-83.4	80.5	78.2-82.8	0.004
3 rd pregnancy only	92	84.5	85.7	83.6-87.8	84.7	82.6-86.8	<0.001
1 st & 2 nd & 3 rd pregnancy	8	87.9	88.5	81.8-95.2	87.3	80.8-93.9	0.002
Gestational hypertension among women with one or more births							
No hypertension in first pregnancy	14,744	76.8	78.0	77.5-78.6	78.0	77.4-78.5	ref
Hypertension 1 st pregnancy	321	82.3	83.5	82.3-84.7	82.3	81.2-83.5	<0.001
Gestational hypertension among women with two or more births							
No hypertension first and second pregnancy	12,882	76.6	78.0	77.4-78.5	77.9	77.4-78.5	ref
First pregnancy only	229	80.8	82.1	80.7-83.4	81.0	79.7-82.4	<0.001

Magnussen EB, Vatten LJ, Smith GD, Romundstad PR. Hypertensive disorders in pregnancy and subsequently measured cardiovascular risk factors. *Obstet Gynecol* 2009;114.

Second pregnancy only	164	84.7	86.3	84.7–87.9	85.3	83.7–86.8	<0.001
First and second pregnancy	35	88.7	90.3	87.0–93.5	88.7	85.5–91.9	<0.001
Gestational hypertension among women with three or more births [§]							
No hypertension during first through third pregnancy	6,290	76.3	77.4	77.6–78.2	77.4	76.6–78.2	ref
First pregnancy only	97	80.5	81.6	79.6–83.7	80.6	78.6–82.7	0.001
Second pregnancy only	55	83.5	84.7	82.1–87.3	84.4	81.8–87.0	<0.001
Third pregnancy only	89	84.9	86.3	84.2–88.4	85.0	82.9–87.1	<0.001
First, second, and third pregnancy	7	87.9	89.5	82.4–96.7	88.5	81.4–95.5	0.002

HUNT, Nord-Trøndelag Health Study.

* Adjusted for age at follow-up (estimated at age 40–45 years), duration between index delivery and HUNT 2, education, smoking, and receiving social security benefits.

[†] Additional adjustment for BMI.

^{††} Missing values for 58 deliveries.

[§] Missing values for 38 deliveries.

Magnussen EB, Vatten LJ, Smith GD, Romundstad PR. Hypertensive disorders in pregnancy and subsequently measured cardiovascular risk factors. *Obstet Gynecol* 2009;114.

Table 3. Odds Ratio for Using Blood Pressure Medication for Hypertensive Disorders in Earlier Pregnancies

	Current Use of Blood Pressure Medication /	Age Adjusted Estimate*	Adjusted Estimate*		BMI-Adjusted Estimate†	
Hypertensive Disorders	Never or Former Use (n) ††	Odds Ratio	Odds Ratio	95 % CI	Odds Ratio	95 % CI
Preeclampsia among women with two or more births						
No preeclampsia	316/12,238	1.0	1.0	ref	1.0	ref
First pregnancy only	23/452	2.3	2.1	1.3-3.3	1.7	1.0-2.7
Second pregnancy only	18/158	4.7	5.3	3.1-9.0	4.4	2.5-7.6
First and second pregnancy	11/73	11.1	11.9	5.8-24.5	9.0	4.3-18.8
Gestational hypertension among women with two or more births						
No hypertension first and second pregnancy	322/12,539	1.0	1.0	ref	1.0	ref
First pregnancy only	16/213	3.5	2.8	1.6-5.0	2.0	1.1-3.7
Second pregnancy only	25/139	6.1	6.8	4.2-10.9	5.3	3.2-8.7
First and second pregnancy	5/30	6.9	7.6	2.7-21.1	5.1	1.8-14.7

BMI, body mass index.

*Adjusted for age at follow-up, duration between index delivery, and Nord-Trøndelag Health Study (HUNT 2), education, smoking, and receiving social security benefits.

†Additional adjustments for body mass index.

††Missing information on blood pressure medication in 21 women with 2 or more pregnancies.

Table 4. Mean Body Mass Index, Blood Pressure, and Lipid Levels in 1,506 Women at Follow-up (HUNT 2 1995-97) According to Term and Preterm Preeclampsia in Earlier Pregnancies

Preeclampsia Among Women With One or More Births	No Preeclampsia in First Pregnancy	Term Preeclampsia in First Pregnancy	Preterm Preeclampsia in First Pregnancy	Difference Between Term and Preterm	P-value Difference Between Term and Preterm
Number of women	14404	572	88		
Mean BMI (kg/m ³)	25.9	27.9	27.8	0.1	0.8
95% CI of mean	25.6 to 26.1	27.5 to 28.3	26.9 to 28.7	-0.8 to 1.0	
Mean systolic blood pressure (mmHg)	128.3	135.2	136.1	-0.9	0.6
95% CI of mean	127.4 to 129.1	133.8 to 136.6	132.9 to 139.3	-4.3 to 2.4	
Mean diastolic blood pressure (mmHg)	77.9	82.5	83.6	-1.0	0.4
95% CI of mean	77.4 to 78.5	81.6 to 83.5	81.5 to 85.7	-3.2 to 1.2	
Mean HDL-cholesterol	1.49	1.45	1.43	0.02	0.6
95% CI of mean	1.47 to 1.52	1.41 to 1.49	1.35 to 1.51	-0.06 to 0.10	
Mean LDL-cholesterol	3.67	3.84	3.92	-0.08	0.5
95% CI of mean	3.60 to 3.73	3.74 to 3.94	3.71 to 4.13	-0.29 to 0.13	
Mean triglycerides	1.39	1.56	1.51	0.05	0.6
95% CI of mean	1.34 to 1.44	1.47 to 1.64	1.33 to 1.68	-0.13 to 0.23	
Mean glucose	5.50	5.65	5.64	0.01	0.9
95% CI of mean	5.44 to 5.56	5.55 to 5.74	5.44 to 5.84	-0.19 to 0.21	

BMI, body mass index; CI, confidence interval.

Adjusted for age at follow-up (estimated at age 40-45 years), duration between index delivery and Nord-Trøndelag Health Study (HUNT 2), education, smoking, receiving social security benefits, and time since last meal.

Magnussen EB, Vatten LJ, Smith GD, Romundstad PR. Hypertensive disorders in pregnancy and subsequently measured cardiovascular risk factors. *Obstet Gynecol* 2009;114.