

SUPPLEMENTARY DATA

**Supplementary Table 1. Adverse pregnancy outcomes by A1C category at 26 weeks gestation with adjustment for A1C during early pregnancy**

		A1C at 26 weeks										
		<6.0 % (<42 mmol/mol)		6.0-6.4% (42-47 mmol/mol)		6.5-6.9% (48-52 mmol/mol)		7.0-7.4% (53-58 mmol/mol)		7.5+ % (59+ mmol/mol)		P value
		n =	101	n =	176	n =	128	n =	98	n =	73	for trend
Pre-eclampsia	Number (%)	8/101	(8%)	23/176	(13%)	29/128	(23%)	24/98	(24%)	17/73	(23%)	
	OR (95%CI)§	1.0	reference	1.6	(0.7, 3.9)	2.6*	(1.1, 6.4)	2.7*	(1.1, 6.8)	2.5	(0.9, 6.6)	0.03
	OR (95%CI)#	1.0	reference	1.9	(0.7, 4.9)	3.4*	(1.2, 9.1)	3.3*	(1.2, 9.5)	3.4*	(1.1,10.3)	0.02
Large for gestational age (>90 <sup>th</sup> centile)	Number (%)	36/99	(36%)	88/175	(50%)	73/128	(57%)	60/98	(61%)	46/73	(63%)	
	OR (95%CI)§	1.0	reference	1.7	(1.0, 2.9)	2.4**	(1.3, 4.4)	3.1***	(1.6, 5.8)	3.5***	(1.7, 7.0)	<0.001
	OR (95%CI)#	1.0	reference	1.6	(0.9, 2.8)	2.4**	(1.3, 4.7)	3.3***	(1.6, 6.8)	3.7***	(1.8, 8.8)	<0.001
Cesarean section delivery	Number (%)	67/101	(66%)	125/176	(71%)	85/128	(66%)	76/98	(78%)	46/73	(63%)	
	OR (95%CI)§	1.0	reference	1.0	(0.6, 1.7)	0.7	(0.4, 1.3)	1.2	(0.6, 2.4)	0.6	(0.3, 1.2)	0.28
	OR (95%CI)#	1.0	reference	0.9	(0.5, 1.7)	0.8	(0.4, 1.7)	1.4	(0.6, 3.0)	0.6	(0.3, 1.3)	0.55
Neonatal hypoglycemia requiring glucose infusion	Number (%)	20/99	(20%)	42/170	(25%)	49/124	(40%)	39/95	(41%)	30/70	(43%)	
	OR (95%CI)§	1.0	reference	1.3	(0.7, 2.5)	2.3*	(1.2, 4.5)	2.3*	(1.2, 4.8)	2.3*	(1.1, 5.0)	0.006
	OR (95%CI)#	1.0	reference	1.6	(0.8, 3.2)	2.8**	(1.3, 5.9)	3.2**	(1.4, 7.2)	3.2**	(1.3, 7.6)	0.002
Hyperbilirubinemia requiring phototherapy	Number (%)	13/99	(13%)	25/173	(14%)	26/127	(20%)	28/96	(29%)	20/71	(28%)	
	OR (95%CI)§	1.0	reference	1.2	(0.5, 2.5)	1.7	(0.8, 3.8)	2.5*	(1.1, 5.8)	2.4*	(1.0, 5.9)	0.006
	OR (95%CI)#	1.0	reference	1.4	(0.6, 3.2)	2.1	(0.9, 5.1)	3.6**	(1.4, 8.9)	3.6*	(1.4, 9.4)	0.001
Delivery before 37 weeks	Number (%)	21/101	(21%)	51/176	(29%)	48/128	(38%)	50/98	(51%)	33/73	(45%)	
	OR (95%CI)§	1.0	reference	1.4	(0.7, 2.5)	1.7	(0.9, 3.3)	2.7**	(1.4, 5.4)	2.0	(1.0, 4.2)	0.007
	OR (95%CI)#	1.0	reference	1.4	(0.7, 2.7)	2.0	(1.0, 4.0)	3.8***	(1.8, 8.0)	2.6*	(1.2, 5.8)	0.001
Composite adverse neonatal outcome	Number (%)	8/101	(8%)	21/176	(12%)	25/128	(20%)	27/98	(28%)	16/73	(22%)	
	OR (95%CI)§	1.0	reference	1.2	(0.5, 2.9)	1.7	(0.7, 4.1)	2.5*	(1.0, 6.1)	1.7	(0.6, 4.5)	0.07
	OR (95%CI)#	1.0	reference	1.3	(0.5, 3.2)	2.0	(0.8, 5.3)	4.0**	(1.5,11.0)	2.5	(0.8, 7.5)	0.009

\* P<0.05, \*\* P<0.01, \*\*\* P<0.001

§ Adjusted for A1C during early pregnancy

# Adjusted for A1C during early pregnancy, age, body mass index, years of education, social class, ethnicity, parity, current smoking, duration of diabetes, microalbuminuria before pregnancy, vitamin treatment group and center.

SUPPLEMENTARY DATA

**Supplementary Table 2. Adverse pregnancy outcomes by A1C category at 34 weeks gestation with adjustment for A1C during early pregnancy**

		A1C at 34 weeks										
		<6.0 % (<42 mmol/mol)		6.0-6.4% (42-47 mmol/mol)		6.5-6.9% (48-52 mmol/mol)		7.0-7.4% (53-58 mmol/mol)		7.5+ % (59+ mmol/mol)		P value
		n =	98	n =	165	n =	136	n =	66	n =	40	for trend
Pre-eclampsia	Number (%)	8/98	(8%)	23/165	(14%)	19/136	(14%)	12/66	(18%)	11/40	(28%)	
	OR (95%CI)§	1.0	reference	1.6	(0.7, 3.9)	1.4	(0.6, 3.4)	1.8	(0.7, 4.8)	4.0*	(1.3,12.1)	0.04
	OR (95%CI)#	1.0	reference	2.4	(0.9, 6.8)	2.4	(0.8, 6.9)	4.0*	(1.2,13.7)	5.4*	(1.5,20.1)	0.01
Large for gestational age (>90 <sup>th</sup> centile)	Number (%)	33/98	(34%)	77/165	(47%)	91/136	(67%)	44/65	(68%)	21/40	(53%)	
	OR (95%CI)§	1.0	reference	1.6	(0.9, 2.7)	4.0***	(2.2, 7.1)	4.4***	(2.1, 8.9)	1.8	(0.8, 4.1)	<0.001
	OR (95%CI)#	1.0	reference	1.7	(0.9, 3.1)	4.4***	(2.2, 8.5)	5.3***	(2.3, 11.9)	2.0	(0.8, 5.1)	<0.001
Cesarean section delivery	Number (%)	62/98	(63%)	107/165	(65%)	99/136	(73%)	51/66	(77%)	23/40	(58%)	
	OR (95%CI)§	1.0	reference	0.9	(0.5, 1.6)	1.3	(0.7, 2.3)	1.6	(0.7, 3.3)	0.6	(0.3, 1.5)	0.87
	OR (95%CI)#	1.0	reference	0.8	(0.5, 1.5)	1.5	(0.7, 2.9)	2.0	(0.8, 4.7)	0.5	(0.2, 1.2)	0.79
Neonatal hypoglycemia requiring glucose infusion	Number (%)	18/97	(19%)	39/158	(25%)	45/133	(34%)	25/64	(39%)	17/38	(45%)	
	OR (95%CI)§	1.0	reference	1.5	(0.8, 2.8)	2.1*	(1.1, 4.0)	2.4*	(1.1, 5.1)	2.7**	(1.1, 6.5)	0.008
	OR (95%CI)#	1.0	reference	1.9	(0.9, 4.0)	2.8**	(1.3, 6.0)	3.8**	(1.5, 9.5)	4.2**	(1.5,12.0)	0.001
Hyperbilirubinemia requiring phototherapy	Number (%)	11/98	(11%)	24/162	(15%)	17/134	(13%)	16/65	(25%)	13/39	(33%)	
	OR (95%CI)§	1.0	reference	1.3	(0.6, 2.9)	1.0	(0.4, 2.4)	2.3	(0.9, 5.6)	3.4*	(1.2, 9.4)	0.01
	OR (95%CI)#	1.0	reference	1.6	(0.7, 3.9)	1.3	(0.5, 3.2)	2.6	(0.9, 7.4)	4.4*	(1.4,14.0)	0.02
Delivery before 37 weeks	Number (%)	17/98	(17%)	38/165	(23%)	48/136	(35%)	27/66	(41%)	16/40	(40%)	
	OR (95%CI)§	1.0	reference	1.2	(0.6, 2.4)	1.9	(1.0, 3.8)	2.3*	(1.1, 5.0)	2.1	(0.9, 5.1)	0.01
	OR (95%CI)#	1.0	reference	1.3	(0.6, 2.7)	2.3*	(1.1, 4.9)	3.0*	(1.2, 7.3)	2.3	(0.8, 6.3)	0.008
Composite adverse neonatal outcome	Number (%)	7/98	(7%)	14/165	(8%)	20/136	(15%)	13/66	(20%)	12/40	(30%)	
	OR (95%CI)§	1.0	reference	1.1	(0.4, 2.9)	1.7	(0.7, 4.4)	2.4	(0.8, 6.7)	4.8**	(1.5,14.7)	0.001
	OR (95%CI)#	1.0	reference	1.3	(0.4, 4.0)	2.2	(0.7, 6.6)	4.5*	(1.3,15.7)	9.8**	(2.5,38.5)	<0.001

\* P<0.05, \*\* P<0.01, \*\*\* P<0.001

§ Adjusted for HbA1c during early pregnancy

# Adjusted for HbA1c during early pregnancy, age, body mass index, years of education, social class, ethnicity, parity, current smoking, duration of diabetes, microalbuminuria before pregnancy, vitamin treatment group and center.

SUPPLEMENTARY DATA

**Supplementary Table 3. Adverse pregnancy outcomes by average pre-prandial glucose category at 26 weeks gestation**

		Pre-prandial average glucose at 26 weeks										
		<5.0 mmol/l		5.0-5.9 mmol/l		6.0-6.9 mmol/l		7.0-7.9 mmol/l		8.0+ mmol/l		P value for trend
		n =	141	n =	157	n =	120	n =	89	n =	103	
Pre-eclampsia	Number (%)	22/140	(16%)	19/157	(12%)	25/120	(21%)	17/89	(19%)	19/103	(18%)	
	OR (95% CI)	1.0	reference	0.7	(0.4, 1.4)	1.4	(0.7, 2.7)	1.3	(0.6, 2.5)	1.2	(0.6, 2.4)	0.22
	OR (95% CI)*	1.0	reference	0.7	(0.3, 1.4)	1.5	(0.7, 3.0)	1.1	(0.5, 2.3)	1.2	(0.6, 2.6)	0.32
Large for gestational age (>90 <sup>th</sup> centile)	Number (%)	62/139	(45%)	78/156	(50%)	55/119	(46%)	51/89	(57%)	68/103	(66%)	
	OR (95% CI)	1.0	reference	1.2	(0.8, 2.0)	1.1	(0.7, 1.7)	1.7	(1.0, 2.9)	2.4 <sup>‡</sup>	(1.4, 4.1)	0.001
	OR (95% CI)*	1.0	reference	1.3	(0.8, 2.2)	1.2	(0.7, 2.0)	1.7	(0.9, 3.0)	2.6 <sup>‡</sup>	(1.5, 4.7)	0.001
Cesarean section delivery	Number (%)	92/140	(66%)	111/157	(71%)	79/120	(66%)	61/89	(69%)	77/103	(75%)	
	OR (95% CI)	1.0	reference	1.3	(0.8, 2.1)	1.0	(0.6, 1.7)	1.1	(0.6, 2.0)	1.5	(0.9, 2.7)	0.26
	OR (95% CI)*	1.0	reference	1.3	(0.7, 2.2)	0.9	(0.5, 1.6)	1.2	(0.6, 2.2)	1.7	(0.9, 3.1)	0.22
Neonatal hypoglycemia requiring glucose infusion	Number (%)	36/137	(26%)	50/153	(33%)	39/116	(34%)	29/87	(33%)	38/99	(38%)	
	OR (95% CI)	1.0	reference	1.4	(0.8, 2.3)	1.4	(0.8, 2.4)	1.4	(0.8, 2.5)	1.7 <sup>†</sup>	(1.0, 3.0)	0.07
	OR (95% CI)*	1.0	reference	1.6	(0.9, 2.7)	1.5	(0.8, 2.7)	1.5	(0.8, 2.9)	2.1 <sup>†</sup>	(1.1, 3.9)	0.04
Hyperbilirubinemia requiring phototherapy	Number (%)	22/137	(16%)	31/155	(20%)	22/115	(19%)	24/89	(27%)	15/101	(15%)	
	OR (95% CI)	1.0	reference	1.3	(0.7, 2.4)	1.2	(0.6, 2.4)	1.9 <sup>†</sup>	(1.0, 3.7)	0.9	(0.4, 1.9)	0.69
	OR (95% CI)*	1.0	reference	1.5	(0.8, 2.8)	1.4	(0.7, 2.8)	2.3 <sup>†</sup>	(1.2, 4.7)	1.0	(0.5, 2.1)	0.53
Delivery before 37 weeks	Number (%)	36/140	(26%)	56/157	(36%)	43/120	(36%)	34/89	(38%)	43/103	(42%)	
	OR (95% CI)	1.0	reference	1.6	(1.0, 2.6)	1.6	(0.9, 2.7)	1.8 <sup>†</sup>	(1.0, 3.2)	2.1 <sup>‡</sup>	(1.2, 3.6)	0.01
	OR (95% CI)*	1.0	reference	1.8 <sup>†</sup>	(1.1, 3.1)	1.7	(1.0, 3.1)	2.0 <sup>†</sup>	(1.1, 3.7)	2.2 <sup>†</sup>	(1.2, 4.0)	0.02
Composite adverse neonatal outcome	Number (%)	21/141	(15%)	23/157	(15%)	22/120	(18%)	17/89	(19%)	20/103	(19%)	
	OR (95% CI)	1.0	reference	1.0	(0.5, 1.9)	1.3	(0.7, 2.5)	1.4	(0.7, 2.7)	1.4	(0.7, 2.7)	0.21
	OR (95% CI)*	1.0	reference	0.9	(0.5, 1.8)	1.5	(0.7, 3.0)	1.6	(0.7, 3.3)	1.5	(0.7, 3.1)	0.12

<sup>†</sup> P<0.05, <sup>‡</sup> P<0.01

\* Adjusted for age, body mass index, years of education, social class, ethnicity, parity, current smoking, duration of diabetes, microalbuminuria before pregnancy, vitamin treatment group and center.

SUPPLEMENTARY DATA

**Supplementary Table 4. Adverse pregnancy outcomes by average 1 hour post-prandial glucose category at 26 weeks gestation**

		1 hour post -prandial average glucose at 26 weeks										
		<6.0 mmol/l		6.0-6.9 mmol/l		7.0-7.9 mmol/l		8.0-8.9 mmol/l		9.0+ mmol/l		P value for trend
		n =	122	n =	113	n =	74	n =	61	n =	114	
Pre-eclampsia	Number (%)	18/122	(15%)	19/113	(17%)	19/74	(26%)	11/61	(18%)	17/113	(15%)	
	OR (95%CI)	1.0	reference	1.2	(0.6, 2.4)	2.0	(1.0, 4.1)	1.3	(0.6, 2.9)	1.0	(0.5, 2.1)	0.86
	OR (95%CI)*	1.0	reference	1.2	(0.6, 2.6)	1.8	(0.8, 4.1)	1.6	(0.6, 4.0)	1.0	(0.5, 2.3)	0.77
Large for gestational age (>90 <sup>th</sup> centile)	Number (%)	62/121	(51%)	49/113	(43%)	30/74	(41%)	36/60	(60%)	70/113	(62%)	
	OR (95%CI)	1.0	reference	0.7	(0.4, 1.2)	0.6	(0.4, 1.2)	1.4	(0.8, 2.7)	1.5	(0.9, 2.6)	0.02
	OR (95%CI)*	1.0	reference	0.7	(0.4, 1.2)	0.6	(0.3, 1.2)	1.4	(0.7, 2.8)	1.6	(0.9, 2.9)	0.03
Cesarean section delivery	Number (%)	86/122	(70%)	75/113	(66%)	55/74	(74%)	32/61	(52%)	82/113	(73%)	
	OR (95%CI)	1.0	reference	0.8	(0.5, 1.4)	1.2	(0.6, 2.3)	0.5 <sup>†</sup>	(0.2, 0.9)	1.1	(0.6, 2.0)	0.84
	OR (95%CI)*	1.0	reference	0.8	(0.5, 1.5)	1.3	(0.6, 2.5)	0.5 <sup>†</sup>	(0.2, 0.9)	1.3	(0.7, 2.5)	0.72
Neonatal hypoglycemia requiring glucose infusion	Number (%)	35/119	(29%)	31/112	(28%)	25/72	(35%)	22/59	(37%)	34/108	(31%)	
	OR (95%CI)	1.0	reference	0.9	(0.5, 1.6)	1.3	(0.7, 2.4)	1.4	(0.7, 2.8)	1.1	(0.6, 1.9)	0.41
	OR (95%CI)*	1.0	reference	1.0	(0.6, 1.9)	1.1	(0.5, 2.2)	1.9	(0.9, 3.9)	1.1	(0.6, 2.2)	0.37
Hyperbilirubinemia requiring phototherapy	Number (%)	21/120	(18%)	21/112	(19%)	13/73	(18%)	10/58	(17%)	18/113	(16%)	
	OR (95%CI)	1.0	reference	1.1	(0.6, 2.1)	1.0	(0.5, 2.2)	1.0	(0.4, 2.2)	0.9	(0.4, 1.8)	0.68
	OR (95%CI)*	1.0	reference	1.2	(0.6, 2.4)	1.3	(0.6, 3.0)	1.2	(0.5, 2.9)	1.1	(0.5, 2.3)	0.81
Delivery before 37 weeks	Number (%)	41/122	(34%)	38/113	(34%)	23/74	(31%)	20/61	(33%)	35/113	(31%)	
	OR (95%CI)	1.0	reference	1.0	(0.6, 1.7)	0.9	(0.5, 1.7)	1.0	(0.5, 1.9)	0.9	(0.5, 1.5)	0.64
	OR (95%CI)*	1.0	reference	1.0	(0.6, 1.8)	1.1	(0.5, 2.1)	1.1	(0.6, 2.3)	1.0	(0.5, 1.8)	0.91
Composite adverse neonatal outcome	Number (%)	19/122	(16%)	19/113	(17%)	9/74	(12%)	8/61	(13%)	15/114	(13%)	
	OR (95%CI)	1.0	reference	1.1	(0.5, 2.2)	0.8	(0.3, 1.8)	0.8	(0.3, 2.0)	0.8	(0.4, 1.7)	0.43
	OR (95%CI)*	1.0	reference	1.1	(0.5, 2.3)	1.0	(0.4, 2.5)	1.1	(0.4, 3.0)	1.0	(0.5, 2.3)	0.92

<sup>†</sup> P<0.05

\* Adjusted for age, body mass index, years of education, social class, ethnicity, parity, current smoking, duration of diabetes, microalbuminuria before pregnancy, vitamin treatment group and center.

SUPPLEMENTARY DATA

**Supplementary Table 5. Adverse pregnancy outcomes by average 1 hour post-prandial glucose category at 34 weeks gestation**

		1 hour post-prandial average glucose at 34 weeks										
		<6.0 mmol/l		6.0-6.9 mmol/l		7.0-7.9 mmol/l		8.0-8.9 mmol/l		9.0+ mmol/l		P value for trend
		n =	123	n =	107	n =	88	n =	41	n =	88	
Pre-eclampsia	Number (%)	17/123	(14%)	18/107	(17%)	11/88	(13%)	8/41	(20%)	13/88	(15%)	
	OR (95%CI)	1.0	reference	1.3	(0.6, 2.6)	0.9	(0.4, 2.0)	1.5	(0.6, 3.8)	1.1	(0.5, 2.4)	0.83
	OR (95%CI)*	1.0	reference	1.4	(0.6, 3.1)	0.8	(0.3, 1.9)	1.2	(0.4, 3.6)	1.1	(0.5, 2.7)	0.99
Large for gestational age (>90 <sup>th</sup> centile)	Number (%)	61/122	(50%)	53/107	(50%)	35/88	(40%)	25/41	(61%)	59/88	(67%)	
	OR (95%CI)	1.0	reference	1.0	(0.6, 1.7)	0.7	(0.4, 1.2)	1.6	(0.8, 3.2)	2.0 <sup>†</sup>	(1.2, 3.6)	0.01
	OR (95%CI)*	1.0	reference	0.9	(0.5, 1.6)	0.6	(0.3, 1.1)	1.8	(0.8, 3.9)	2.0 <sup>†</sup>	(1.1, 3.8)	0.02
Cesarean section delivery	Number (%)	82/123	(67%)	67/107	(63%)	60/88	(68%)	30/41	(73%)	62/88	(70%)	
	OR (95%CI)	1.0	reference	0.8	(0.5, 1.4)	1.1	(0.6, 1.9)	1.4	(0.6, 3.0)	1.2	(0.7, 2.2)	0.31
	OR (95%CI)*	1.0	reference	0.9	(0.5, 1.6)	1.3	(0.7, 2.5)	2.1	(0.9, 5.2)	1.3	(0.7, 2.6)	0.13
Neonatal hypoglycemia requiring glucose infusion	Number (%)	34/120	(28%)	27/107	(25%)	23/85	(27%)	11/39	(28%)	27/86	(31%)	
	OR (95%CI)	1.0	reference	0.9	(0.5, 1.5)	0.9	(0.5, 1.7)	1.0	(0.4, 2.2)	1.2	(0.6, 2.1)	0.56
	OR (95%CI)*	1.0	reference	0.9	(0.5, 1.7)	0.8	(0.4, 1.5)	0.7	(0.3, 1.8)	1.0	(0.5, 2.0)	0.82
Hyperbilirubinemia requiring phototherapy	Number (%)	13/122	(11%)	16/107	(15%)	14/87	(16%)	7/41	(17%)	12/88	(14%)	
	OR (95%CI)	1.0	reference	1.5	(0.7, 3.2)	1.6	(0.7, 3.6)	1.7	(0.6, 4.7)	1.3	(0.6, 3.1)	0.47
	OR (95%CI)*	1.0	reference	1.9	(0.8, 4.6)	1.9	(0.8, 4.6)	2.0	(0.7, 6.1)	1.5	(0.6, 3.6)	0.44
Delivery before 37 weeks	Number (%)	33/123	(27%)	29/107	(27%)	27/88	(31%)	5/41	(12%)	28/88	(32%)	
	OR (95%CI)	1.0	reference	1.0	(0.6, 1.8)	1.2	(0.7, 2.2)	0.4	(0.1, 1.0)	1.3	(0.7, 2.3)	0.82
	OR (95%CI)*	1.0	reference	1.1	(0.6, 2.1)	1.3	(0.7, 2.6)	0.4	(0.1, 1.3)	1.5	(0.8, 2.9)	0.50
Composite adverse neonatal outcome	Number (%)	17/123	(14%)	13/107	(12%)	10/88	(11%)	2/41	(5%)	12/88	(14%)	
	OR (95%CI)	1.0	reference	0.9	(0.4, 1.9)	0.8	(0.3, 1.8)	0.3	(0.1, 1.4)	1.0	(0.4, 2.2)	0.65
	OR (95%CI)*	1.0	reference	1.0	(0.4, 2.2)	0.9	(0.4, 2.1)	0.4	(0.1, 1.7)	1.0	(0.4, 2.5)	0.76

<sup>†</sup> P<0.05

\* Adjusted for age, body mass index, years of education, social class, ethnicity, parity, current smoking, duration of diabetes, microalbuminuria before pregnancy, vitamin treatment group and center.