SUPPLEMENTARY DATA

METHODS

Power and sample size.

At the planning stage of this study, we expected a total sample size of 2,432 women diagnosed with GDM in a given year at the 44 facilities, and that approximately 76% would have weight measured at/near 12 months postpartum, given preliminary pilot data. Given the group-randomization study design, calculation of minimum detectable treatment effects accounted for the expected intra-class correlation (ICC, correlation of observations within medical center) for the outcomes of interest. The intraclass correlation in patient-level outcomes of interest within center was expected to be quite small. Published estimates of within practice intraclass correlation coefficients for patient outcomes are generally less than 0.05 and are often between .01 and .02[1-4]. We therefore calculated minimum detectable effects across a reasonable range for the expected intra-class correlation (.01 - .05), using the method of Donner and Klar[5]. These calculations assumed an equal number of patients per cluster, which is almost always a reasonable approach for approximation in power/sample size calculations for cluster randomized study designs[6]. At the planning stage, minimum detectable differences in the proportion meeting weight goals ranged from 0.060 to 0.10, across the range in expected proportion meeting goal in the usual care condition (0.15 - 0.25) and across the range in expected ICC (0.01 - 0.05) [α=.05, power=.80]. In addition, minimum detectable differences in mean weight change ranged from 0.80kg – 1.15kg across the range in assumed ICC (expected standard deviation from preliminary data).

Observed Intraclass Correlations

The observed ICCs for the primary study outcome of pregravid to postpartum weight change were .002, .003, and .001 at 6 weeks, 6 months, and 12 months, respectively. The ICCs for meeting the postpartum weight goal were .015 and .017 at 6 months and 12 months, respectively.

Postpartum screening and diagnosis of pre-diabetes and diabetes

Fasting plasma glucose, plasma glucose levels measured 2-hours after a 75-gram oral glucose tolerance test, and A1c tests were used to define screening and diagnosis of pre-diabetes or diabetes from 2 weeks postpartum to the end of follow-up. Women were diagnosed to have pre-diabetes or diabetes according to the thresholds recommended by the American Diabetes Association.[7] Although, the use A1c testing during the first 3 months postpartum may underestimate the presence of disglycemia due to possible reticulocytosis after delivery, which would tend to lower the A1c relative to the true level of glycemia, only 40 (3.8%) women in the intervention and 53 (4.6%) women in usual care were tested by A1c only between 2-weeks and 12-weeks postpartum. Therefore, if any bias would have been introduced with the use of A1c testing, it would be conservative since more women in usual care than in intervention were tested by A1c between 2- weeks and 12-weeks postpartum. Among these women, 13 (32.5%) in the intervention and 18 (34.0%) in usual care had A1c values diagnostic of pre-diabetes.

SUPPLEMENTARY DATA

Supplementary Table S1. Proportion of women meeting the postpartum weight goals with odds ratios estimating differences between conditions: the Gestational Diabetes' Effects on Moms trial

	Measured postpartum weights						Measured and self-reported postpartum weights						Measured and imputed postpartum weights	
	Intervention		Usual care				Intervention		Usual care					
	N	%	N	%	OR (95% CI)	P value*	N	%	N	%	OR (95% CI)	P value*	OR (95% CI)	P value*
Among women with BMI <25.0														
Average effect of intervention	370		394		1.35 (1.03-1.78)	0.03					1.37 (1.06-1.76)	0.02	1.32 (1.03-1.69)	0.03
6-weeks postpartum	352	25.3	377	20.2	1.27 (0.98-1.64)	0.07	371	25.3	388	20.6	1.31 (1.04-1.64)	0.02	1.29 (0.92-1.81)	0.13
6-months postpartum	266	45.9	299	34.1	1.54 (1.05-2.27)	0.03	328	45.4	349	34.7	1.51 (1.08-2.10)	0.02	1.41 (1.00-1.98)	0.05
12-months postpartum	230	51.7	259	42.9	1.25 (0.85-1.84)	0.26	317	50.2	320	43.8	1.28 (0.91-1.80)	0.15	1.25 (0.81-1.92)	0.30
Among women with BMI ≥25.0														
Average effect of intervention	681		776		1.21 (1.01-1.45)	0.04					1.11 (0.95-1.30)	0.19	1.19 (1.02-1.38)	0.03
6-weeks postpartum	648	25.6	752	23.5	1.11 (0.91-1.36)	0.29	679	24.9	768	23.7	1.08 (0.89-1.31)	0.43	1.12 (0.88-1.43)	0.34
6-months postpartum	498	22.5	576	18.6	1.35 (1.03-1.76)	0.03	594	23.9	696	20.7	1.24 (1.00-1.54)	0.05	1.25 (0.95-1.63)	0.11
12-months postpartum	446	23.3	485	20.0	1.25 (0.86-1.82)	0.24	573	24.3	647	23.5	1.03 (0.80-1.33)	0.79	1.21 (0.91-1.61)	0.18

P value for treatment x follow-up time point interaction > 0.05

P value for treatment x pregravid BMI interaction = 0.48 for meeting the goals

SUPPLEMENTARY DATA

Supplementary Table S2. Mean changes in weight from pregravid to postpartum with mean differences between conditions: the Gestational Diabetes' Effects on Moms trial

	Measured postpartum weights						Measured and self-reported postpartum weights						Measured and imputed postpartum weights	
	Intervention		Usual care				Intervention		Usual care					
	N	Mean (SD)	N	Mean (SD)	Mean difference (95% CI)	P value *	N	Mean (SD)	N	Mean (SD)	Mean difference (95% CI)	P value *	Mean difference (95% CI)	P value *
Among women with BMI ≥ 25.0														
Average effect of intervention	370		394		-0.28 (-0.84 to 0.29)	0.34					-0.28 (-0.83 to 0.26)	0.31	-0.20 (-0.91 to 0.50)	0.58
6-weeks postpartum	352	3.03 (4.46)	377	3.37 (4.06)	-0.31 (-0.92 to 0.30)	0.32	371	2.99 (4.41)	388	3.32 (4.04)	-0.33 (-0.93 to 0.27)	0.28	-0.24 (-0.94 to 0.47)	0.51
6-months postpartum	266	1.28 (5.01)	299	1.67 (4.03)	-0.23 (-0.90 to 0.45)	0.51	328	1.14 (4.87)	349	1.66 (4.01)	-0.36 (-0.99 to 0.28)	0.27	-0.25 (-1.05 to 0.54)	0.54
12-months postpartum	230	0.55 (4.49)	259	0.96 (4.28)	-0.23 (-0.95 to 0.49)	0.53	317	0.65 (4.73)	320	0.79 (4.31)	-0.21 (-0.88 to 0.46)	0.54	-0.13 (-1.22 to 0.95)	0.81
Among women with BMI ≥ 25.0														
Average effect of intervention	681		776		-0.30 (-0.83 to 0.23)	0.26					-0.24 (-0.76 to 0.28)	0.37	-0.24 (-0.76 to 0.29)	0.38
6-weeks postpartum	648	-0.66 (5.68)	752	-0.58 (5.60)	-0.18 (-0.75 to 0.39)	0.54	679	-0.64 (5.65)	768	-0.60 (5.58)	-0.17 (-0.73 to 0.39)	0.55	-0.17 (-0.74 to 0.40)	0.55
6-months postpartum	498	-0.08 (5.77)	576	0.56 (6.05)	-0.85 (-1.50 to -0.20)	0.01	594	-0.37 (5.69)	696	0.13 (6.10)	-0.62 (-1.30 to 0.00)	0.05	-0.59 (-1.22 to 0.03)	0.06
12-months postpartum	446	0.02 (6.43)	485	0.25 (5.95)	-0.53 (-1.25 to 0.19)	0.15	573	-0.34 (6.31)	647	-0.16 (6.30)	-0.32 (-1.00 to 0.37)	0.36	-0.40 (-1.12 to 0.33)	0.28

* *P value* for condition differences

P value for treatment x follow-up time point interaction <0.05 for weight change among women with pregravid BMI ≥25.0 only

P value for treatment x pregravid BMI interaction = 0.93 for weight change

SUPPLEMENTARY DATA

Supplementary Table S3. Proportion of women with postpartum hypertension or depression with odds ratios estimating differences between conditions: the Gestational Diabetes' Effects on Moms trial

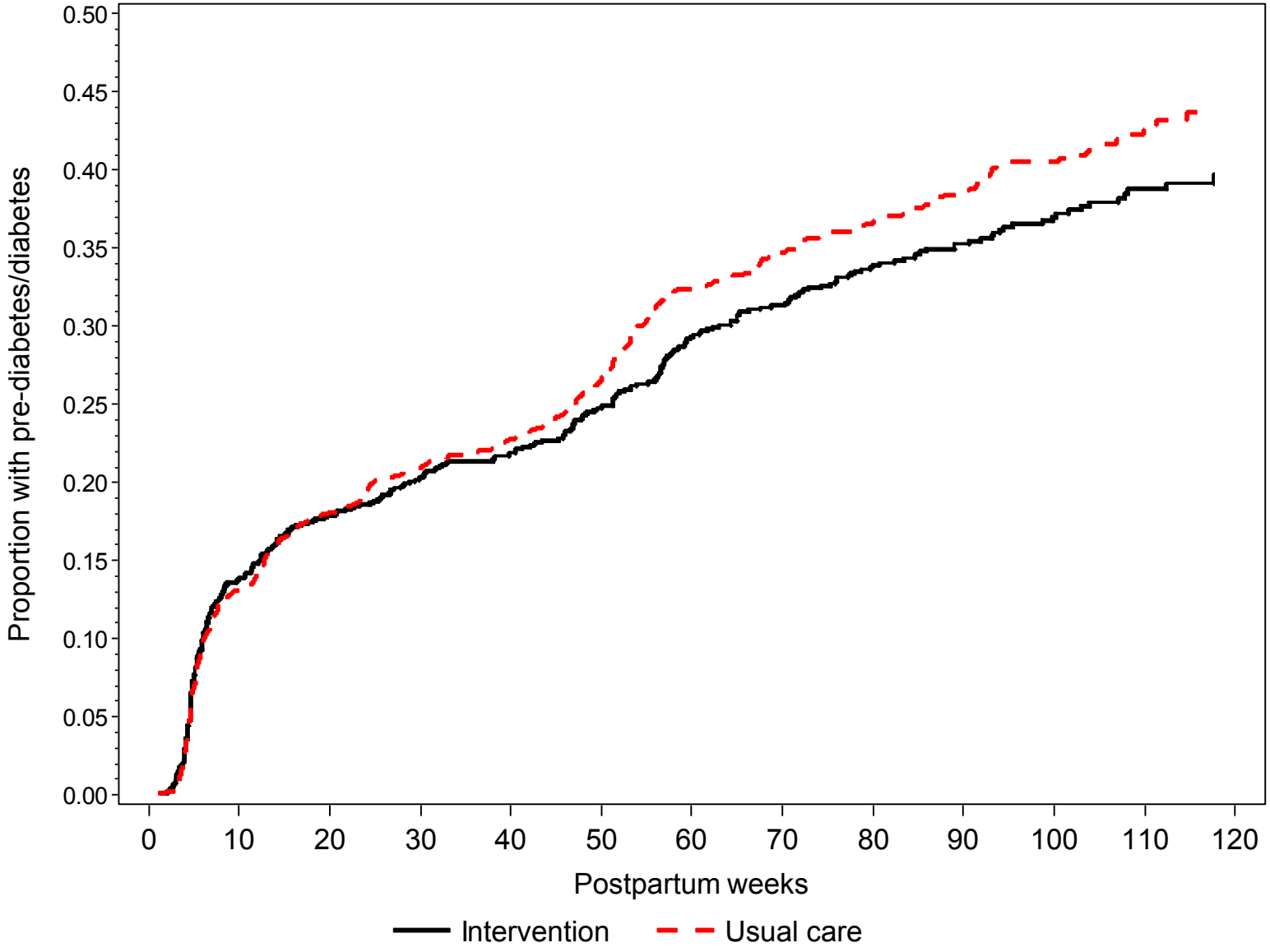
	Intervention		Usual care				Intervention		Usual care			
	N	%	N	%	OR (95% CI)	p value*	N	%	N	%	OR (95% CI)	p value*
Hypertension												
Average effect of intervention	1050		1169		1.02 (0.76-1.37)	0.90	1087		1192		1.00 (0.82- 1.23)	0.98
6 weeks postpartum	996	12.4	1122	12.6	0.90 (0.63-1.27)	0.54	1087	12.5	1192	12.7	0.93 (0.71- 1.23)	0.62
6 months postpartum	772	9.5	885	8.6	1.15 (0.80-1.67)	0.44	1083	9.3	1187	8.8	1.05 (0.74- 1.49)	0.77
12 months postpartum	693	9.7	757	8.3	1.22 (0.78-1.90)	0.38	1040	9.7	1154	8.9	1.07 (0.71- 1.61)	0.73
Depression												
Average effect of intervention	967		1039		1.16 (0.87-1.54)	0.32	1087		1192		0.97 (0.79- 1.20)	0.80
6 weeks postpartum	943	10.5	1013	10.5	1.14 (0.80-1.63)	0.48	1087	8.6	1192	9.2	0.97 (0.69- 1.36)	0.84
6 months postpartum	760	13.3	827	12.2	1.19 (0.83-1.70)	0.34	1083	8.2	1187	8.8	0.93 (0.66- 1.32)	0.68
12 months postpartum	742	13.1	806	12.3	1.14 (0.79-1.63)	0.48	1040	7.8	1154	7.8	1.03 (0.71- 1.51)	0.86

Hypertension= systolic blood pressure ≥ 140 mmHg or diastolic blood pressure ≥ 90 mmHg, or use of antihypertensive medications from electronic medical record

Depression= diagnosis of depression, use of antidepressant medications or depression score ≥10 on PHQ-9 from electronic medical record or score ≥10 on PHQ-8 from surveys

SUPPLEMENTARY DATA

Supplementary Figure S2. Cumulative incidence of pre-diabetes/diabetes: the Gestational Diabetes' Effects on Moms trial



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