SUPPLEMENTARY DATA

A. Comparing Israeli with other HAPO participants

Supplementary Table 1. Comparisons of baseline characteristics and pregnancy outcomes between Israeli and other HAPO study participants*

	HAPO study participants		P
	Israeli	Others	
	N=3,345	N=19,971	
Age, years, mean (SD)	27.8 (5.4)	29.4 (6.0)	<.001
BMI, kg/m^2, mean (SD)	26.9 (4.4)	27.8 (5.4)	<.001
Current cigarette smoking, %	5.9	6.9	.024
Any alcohol consumption, %	0.5	8.0	<.001
Multiparous, %	60.6	51.1	<.001
Fasting plasma glucose, mg/dL, mean (SD)	78.4 (6.7)	81.3 (7.1)	<.001
1-hr post-oral glucose load, mg/dL, mean (SD)	124.5 (30.4)	135.7 (30.7)	<.001
2-hr post-oral glucose load, mean (SD)	101.8 (21.7)	112.5 (23.6)	<.001
Cumulative percent positive by threshold:			
Fasting > 92 mg/dL	2.8	8.3	
1-hr post-oral glucose load > 180 mg/dL	6.9	14.0	<.001
2-hr post-oral glucose load > 153 mg/dL	8.3	16.1	
Unblinded*	9.0	17.8	
Fetal macrosomia, %	8.8	9.7	.11
Pre-eclampsia/eclampsia, %	1.3	5.4	<.001
Primary cesarean section, %	10.0	17.0	<.001
Birth injury/shoulder dystocia, %	0.3	1.5	<.001
Pre-term delivery, %	5.3	7.2	<.001
Admission to neonatal intensive care unit, %	7.0	8.1	.034

* Women with fasting plasma glucose > 105 mg/dL, plasma glucose at 2-hr post-oral glucose load >200 mg/dL, or a random plasma glucose level $\geq$ 160 mg/dL. Information on the plasma glucose levels of these women was disclosed to their caregivers.

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B. Statistical approach to building the risk scores:

We built two risk scores:

(i) The first score was developed to identify IADPSG-positive women who had lower risk for fetal macrosomia (FM) (FM Management Risk Score);

(ii) The second score was developed to identify women that, although they had a fasting plasma glucose (FPG) value lower than the screening threshold (89 mg/dL), had prevalence of fetal macrosomia close to the prevalence found amongst women with a FPG value equal to or greater than the screening threshold ($\geq$ 89 mg/dL) (FM Diagnosis Risk Score).

The variables considered for entry into the multivariable logistic regression model for the FM Management Risk Score were those found to be significantly associated with fetal macrosomia in univariate analyses, and those that were entered into the multivariate model for fetal macrosomia by the HAPO investigators, as reported in the HAPO paper web appendix

(http://www.nejm.org/doi/suppl/10.1056/NEJMoa0707943/suppl_file/nejm_hapo_19 91sa1.pdf).

The following variables were considered: maternal age, BMI at 28-32 weeks of gestation, BMI^2, height, smoking, alcohol use, hospitalization prior to delivery, any family history of diabetes, mean arterial blood pressure, gestational age at OGTT, and parity.

For the FM Diagnosis Risk Score we used all of the above variables plus FPG level at 28-32 weeks of gestation.

Using a backward elimination process, the variables creating the risk scores were those that remained significantly and independently associated with fetal macrosomia in the final models.

➢ For the FM Management Risk Score these variables were: BMI, maternal height and parity.
➢ For the FM Diagnosis Risk Score these variables were: FPG and BMI, maternal height and parity.
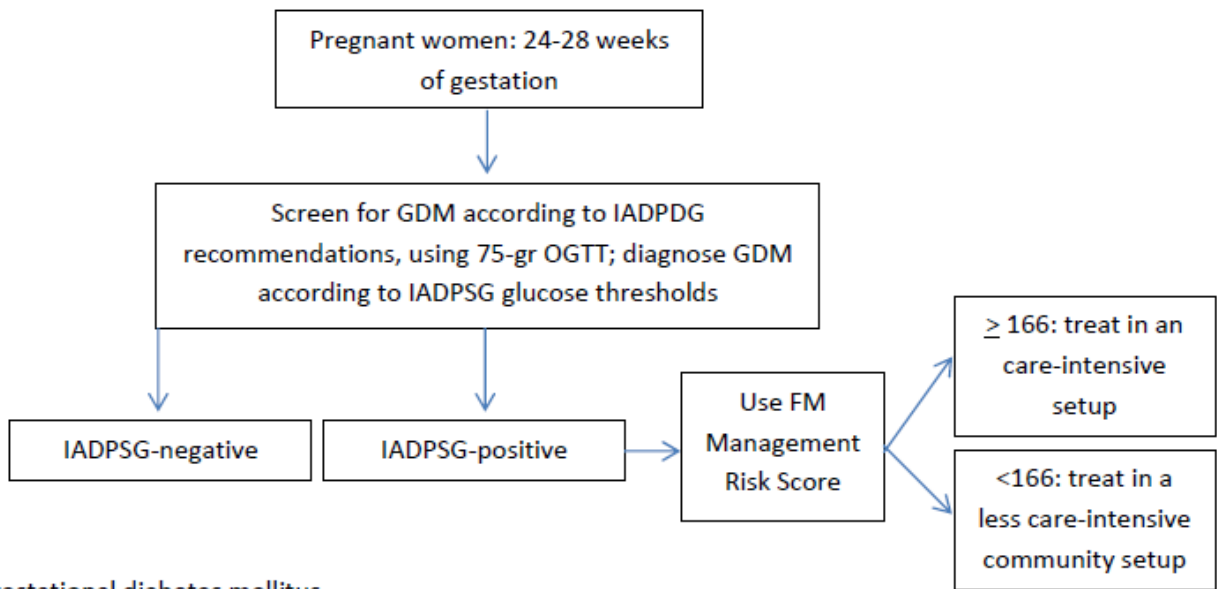
Risk stratification for fetal macrosomia among women diagnosed with gestational diabetes mellitus (GDM) according to the IADPSG criteria:

FM Management Risk Score = *BMI (kg/m^2) + 0.86 x height (cm) + 1.10 x parity*

Score <166 signifies low risk for fetal macrosomia.
Utilization of the risk score is shown in Figure 1.

SUPPLEMENTARY DATA

Supplementary Figure 1. Screening algorithm, using IADPSG recommendations plus FM Management Risk Score:

GDM: gestational diabetes mellitus

Risk stratification for fetal macrosomia among women with FPG < 89 mg/dL:

FM Diagnosis Risk Score = *0.87 x BMI (kg/m^2) + 0.86 x height (cm) + 1.12 x parity + 0.405 x FPG (mg/dl)*

Score ≥200 signifies high risk for fetal macrosomia.

Utilization of the risk score is shown in Figure 2.

Supplementary Figure 2. Two-step screening regime:
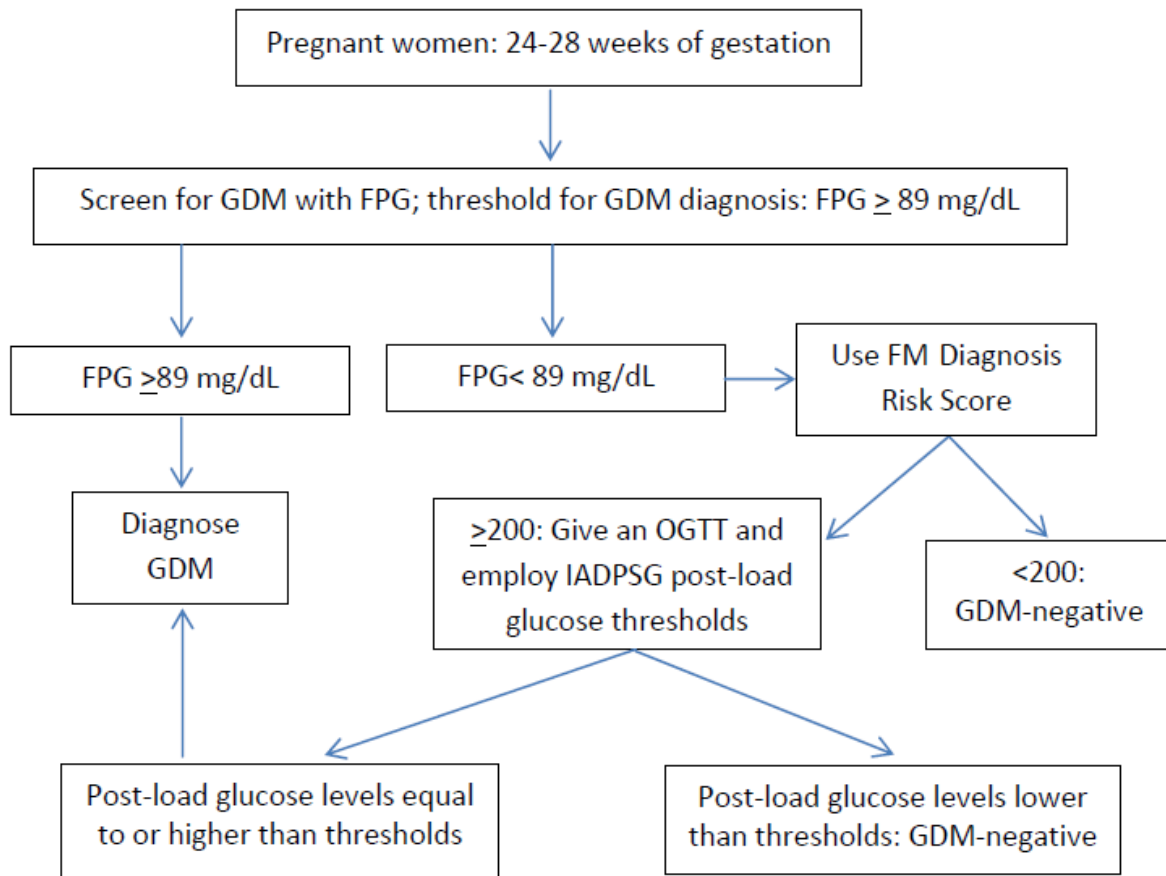
GDM: gestational diabetes mellitus

3. Number needed to screen and number need to treat to prevent one adverse outcome:

The yield of the IADPSG recommendations was assessed by estimating (with 95% confidence intervals) the number of women needed to screen (NNS) and the number of women needed to treat (NNT) to prevent one case of fetal macrosomia or pre-eclampsia. For the treatment effect, we used the results of a randomized controlled trial on the effect of intensified treatment in women with mild GDM (Landon MB, Spong CY, Thom E, Carpenter MW, Ramin SM, Casey B, et al. A multicenter, randomized trial of treatment for mild gestational diabetes. N Engl J Med 2009; 361: 1339-48).

We estimated that, using the IADPSG recommendations, 145 Israeli pregnant women would need to be screened with OGTT and 12 would need to receive further dietary advice with or without hypoglycemic therapy, to prevent one case of fetal macrosomia. To prevent one case of pre-eclampsia/eclampsia the numbers needed to screen and to treat are estimated to be about 8 times larger than for fetal macrosomia, given the lower event rate (Table 2).

Supplementary Table 1. Expected yield of screening and treatment of GDM, employing the IADPSG recommendations

Outcome	Rate (%)*	Relative risk reduction	NNS	NNT
		following treatment	(95% confidence limits)	(95% confidence limits)
Fetal macrosomia	16.4	49%	145	12
			(90, 232)	(7.5, 19.0)
Pre-eclampsia/ eclampsia	1.8	46%	1,214	103
			(431, 3,584)	(36, 292)

* Outcome rate among women identified with GDM according to the IADSG criteria.
NNS: number needed to screen to avoid one adverse outcome.
NNT: number needed to treat to avoid one adverse outcome.