Supplemental Data:

Data file S1: The replicated differentially expressed gene set in peripheral blood at early pregnancy of women who developed preeclampsia

Data file S2: The replicated gene set literature curation

Data file S3: The replicated gene set with evidence of higher expression in placenta

Data file S4: GO enrichment analysis and functional annotation of replicated gene set

Data file S5: GO enrichment analysis and functional annotation of the largest connected component of replicated gene set

Data file S6: Distribution of the pregnant women's characteristics across vitamin D cutoff 30 ng/mL at enrollment.

Supplemental Table 6. Distribution of the pregnant women's characteristics across vitamin D cutoff 30 ng/mL at enrollment.

	25OHD<30 ml (n=634)	**25OHD≥30 ng/mL (n=177)**	**p-value**
Clinical center			
San Diego, n	176	100	<0.001
Boston, n	209	33	
St. Louis, n	249	44	
Age (yrs)			
age <35, n	590	162	0.49
≥35, n	44	15	
Gestation age in weeks at enrollment, mean (sd)	14.2 (2.8)	14.04 (2.4)	0.45
Total number of pregnancies, including VDAART, mean (sd)	2.4 (1.6)	2.3 (1.4)	0.23
BMI (mg/kg^2) at first appointment, mean (sd)	29.75 (7.8)	25.97 (6.4)	<0.001
Mother			
asthma, n	254	71	0.99
allergic rhinitis, n	179	48	0.77
eczema, n	201	58	0.8
Race/ethnicity			
African American, n	321	30	<0.001
Caucasian, n	216	112	
Other, n	97	35	
Education completed			
less than college, n	450	85	<0.001
college and above, n	184	92	
Marital status			
married, n	253	117	<0.001
not married/divorced, n	381	60	
Household income ($)			
<$50,000, n	284	57	<0.001
≥50,000, n	177	94	
unknown/refused, n	173	26	
Intervention arm			
treatment, n	310	95	0.26
placebo, n	324	82	

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CONSORT 2010 checklist of information to include when reporting a randomised trial*

Section/Topic	Item No	Checklist item	Reported on page No
Title and abstract			
	1a	Identification as a randomised trial in the title	1
	1b	Structured summary of trial design, methods, results, and conclusions (for specific guidance see CONSORT for abstracts)	3
Introduction			
Background and objectives	2a	Scientific background and explanation of rationale	4
	2b	Specific objectives or hypotheses	4
Methods			
Trial design	3a	Description of trial design (such as parallel, factorial) including allocation ratio	12-19
	3b	Important changes to methods after trial commencement (such as eligibility criteria), with reasons	N/A
Participants	4a	Eligibility criteria for participants	13-14
	4b	Settings and locations where the data were collected	15 and refs 24, 42
Interventions	5	The interventions for each group with sufficient details to allow replication, including how and when they were actually administered	12, refs 24, 42
Outcomes	6a	Completely defined pre-specified primary and secondary outcome measures, including how and when they were assessed	15-16, ref 42
	6b	Any changes to trial outcomes after the trial commenced, with reasons	N/A
Sample size	7a	How sample size was determined	Ref 42
	7b	When applicable, explanation of any interim analyses and stopping guidelines	N/A
Randomisation:			
Sequence generation	8a	Method used to generate the random allocation sequence	Ref 42
	8b	Type of randomisation; details of any restriction (such as blocking and block size)	Ref 42
Allocation concealment mechanism	9	Mechanism used to implement the random allocation sequence (such as sequentially numbered containers), describing any steps taken to conceal the sequence until interventions were assigned	Ref 42
Implementation	10	Who generated the random allocation sequence, who enrolled participants, and who assigned participants to	

		interventions	Ref 42
Blinding	11a	If done, who was blinded after assignment to interventions (for example, participants, care providers, those assessing outcomes) and how	Ref 42
	11b	If relevant, description of the similarity of interventions	N/A
Statistical methods	12a	Statistical methods used to compare groups for primary and secondary outcomes	19-22
	12b	Methods for additional analyses, such as subgroup analyses and adjusted analyses	19-22
Results			
Participant flow (a diagram is strongly recommended)	13a	For each group, the numbers of participants who were randomly assigned, received intended treatment, and were analysed for the primary outcome	35, Consort diagram, Figure 1
	13b	For each group, losses and exclusions after randomisation, together with reasons	35, Figure 1
Recruitment	14a	Dates defining the periods of recruitment and follow-up	15, Ref 42
	14b	Why the trial ended or was stopped	N/A
Baseline data	15	A table showing baseline demographic and clinical characteristics for each group	39, Table 1
Numbers analysed	16	For each group, number of participants (denominator) included in each analysis and whether the analysis was by original assigned groups	Figure 1, Table 1
Outcomes and estimation	17a	For each primary and secondary outcome, results for each group, and the estimated effect size and its precision (such as 95% confidence interval)	5, Table 2
	17b	For binary outcomes, presentation of both absolute and relative effect sizes is recommended	5, Table 2
Ancillary analyses	18	Results of any other analyses performed, including subgroup analyses and adjusted analyses, distinguishing pre-specified from exploratory	5-7
Harms	19	All important harms or unintended effects in each group (for specific guidance see CONSORT for harms)	N/A
Discussion			
Limitations	20	Trial limitations, addressing sources of potential bias, imprecision, and, if relevant, multiplicity of analyses	11
Generalisability	21	Generalisability (external validity, applicability) of the trial findings	11
Interpretation	22	Interpretation consistent with results, balancing benefits and harms, and considering other relevant evidence	7-11
Other information			
Registration	23	Registration number and name of trial registry	12
Protocol	24	Where the full trial protocol can be accessed, if available	Ref 42
Funding	25	Sources of funding and other support (such as supply of drugs), role of funders	44, ref 42

*We strongly recommend reading this statement in conjunction with the CONSORT 2010 Explanation and Elaboration for important clarifications on all the items. If relevant, we also recommend reading CONSORT extensions for cluster randomised trials, non-inferiority and equivalence trials, non-pharmacological treatments, herbal interventions, and pragmatic trials. Additional extensions are forthcoming: for those and for up to date references relevant to this checklist, see www.consort-statement.org.