

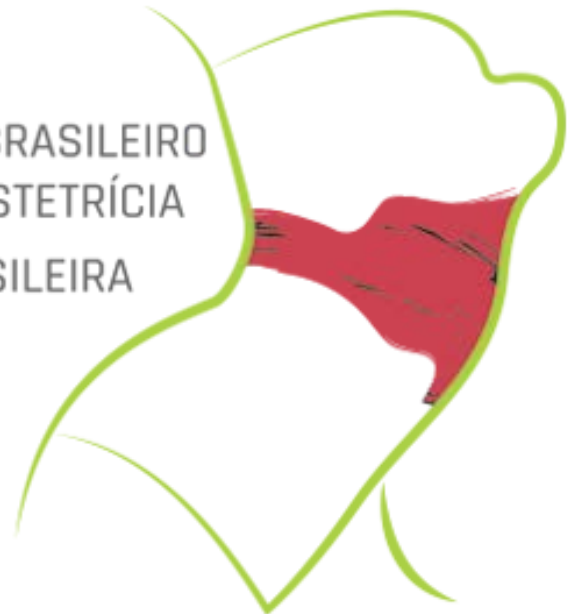


## **Maria Lúcia da Rocha Oppermann**

- Professora Associada DGO FAMED UFRGS
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- Coordenadora do Ambulatório de Diabetes e Gestação do HCPA
- Diretora Exercício Profissional SOGIRGS 2017-19

**31 MAIO  
A 2 JUN  
2018**

XIX CONGRESSO SUL-BRASILEIRO  
DE GINECOLOGIA E OBSTETRÍCIA  
IV JORNADA SUL-BRASILEIRA  
DE MASTOLOGIA



Sexta-feira, 01 de junho de 2018

**Tema: Diagnóstico e manejo clínico de patologias associadas a gravidez**

**Obesidade: manejo no pré-natal e no parto**

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Comissão Nacional TEGO FEBRASGO

# Maternal and child undernutrition and overweight in low-income and middle-income countries

Robert E Black, Cesar G Victora, Susan P Walker, Zulfiqar A Bhutta\*, Parul Christian\*, Mercedes de Onis\*, Majid Ezzati\*, Sally Grantham-McGregor\*, Joanne Katz\*, Reynaldo Martorell\*, Ricardo Uauy\*, and the Maternal and Child Nutrition Study Group†

## Women

Country	Year				
	1975	1985	1995	2005	2014
Brazil	22.7 (21.0-24.3)	23.9 (23.1-24.7)	24.7 (24.3-25.1)	25.4 (25.1-25.7)	26.1 (25.3-26.7)

## Women, 30 ≤ BMI < 35 kg/m<sup>2</sup>

Country	Year				
	1975	1985	1995	2005	2014
Brazil	0.062 (0.026-0.115)	0.089 (0.057-0.129)	0.111 (0.084-0.142)	0.131 (0.105-0.160)	0.151 (0.108-0.200)

## Women, BMI ≥ 40 kg/m<sup>2</sup>

Country	Year				
	1975	1985	1995	2005	2014
Brazil	0.002 (0.000-0.005)	0.004 (0.001-0.009)	0.008 (0.004-0.013)	0.014 (0.008-0.021)	0.022 (0.010-0.039)

obesidade em mulheres no Brasil  
1.9 milhões em 1975  
18 milhões em 2014

Supplement to: NCD Risk Factor Collaboration (NCD-RisC). Trends in adult body-mass index in 200 countries from 1975 to 2014: a pooled analysis of 1698 population-based measurement studies with 19.2 million participants. *Lancet* 2016; 387: 1377–96.

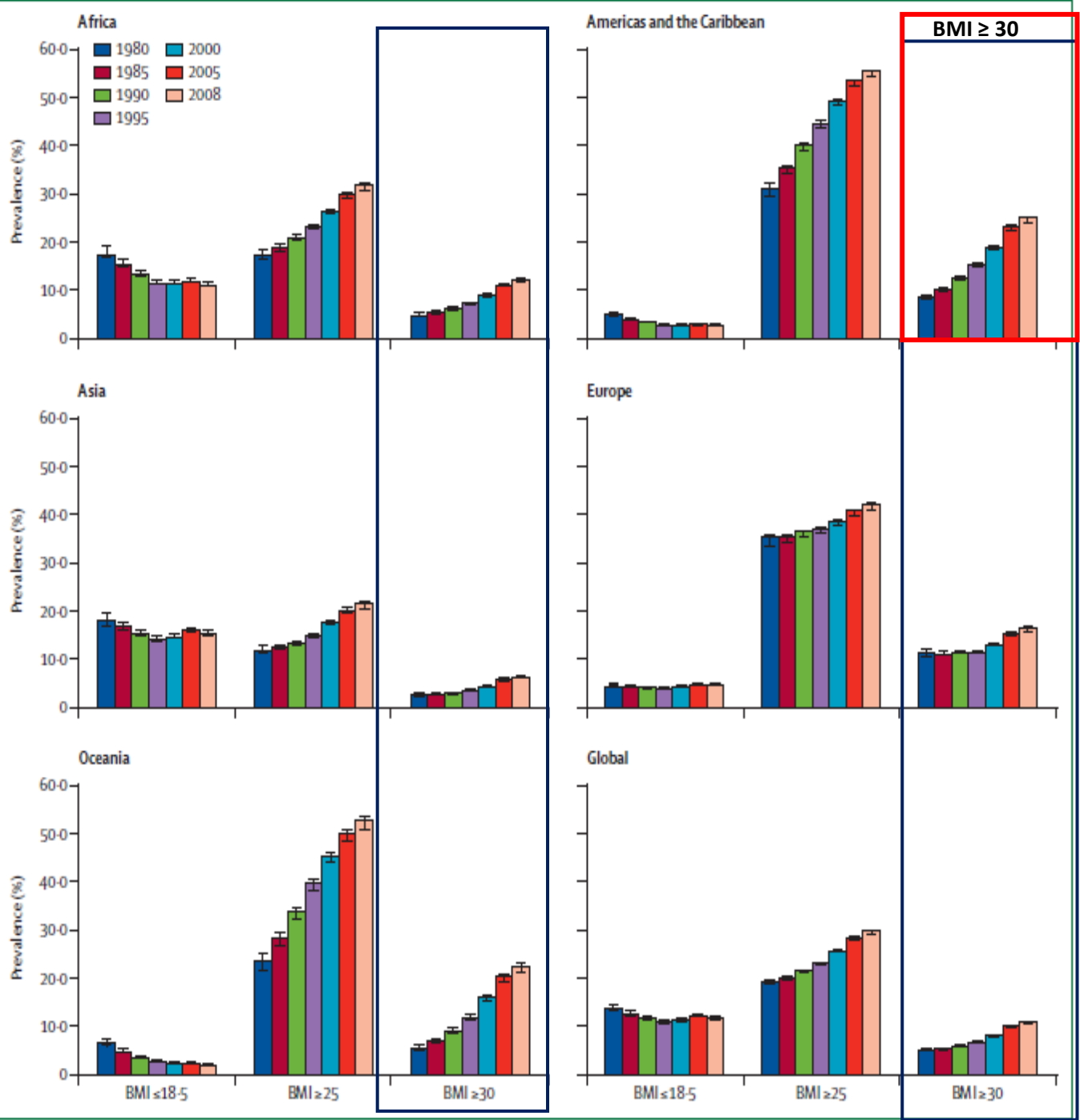
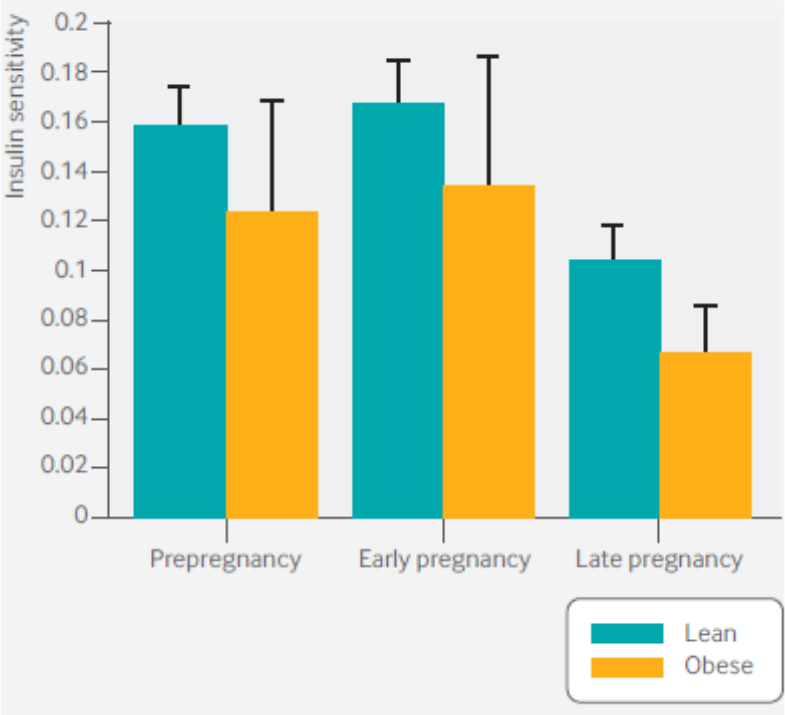


Table 1   World Health Organization body mass index (BMI) categories <sup>7</sup>	
Category	BMI*
Underweight	Less than 18.5
Normal weight	18.5-24.9
Overweight	25.0-29.9
Obesity class I	30.0-34.9
Obesity class II	35.0-39.9
Obesity class III	40 or greater

IMC (kg/m2)	Ganho até 14ª sem	Ganho a partir 14ª sem semanal	Ganho mínimo semanal	Ganho total na gestação
< 18,5	2,0	0,51 [0,44-0,58]	0,44	12,5 - 18,0
18,5 – 24,9	1,5	0,42 [0,35-0,50]	0,35	11,5 - 16,0
25,0 – 29,9	1,0	0,28 [0,23-0,33]	0,23	7,0 - 11,5
≥ 30	0,5	0,22 [0,17-0,27]	0,17	5,0 - 9,0

IOM 2009



sensibilidade à insulina diminui 40-50% na gestação  
 queda maior em obesas

retorna rapidamente após o parto

Obesity and pregnancy: mechanisms of short term and long term adverse consequences for mother and child

PatrickM Catalano,<sup>1,2</sup> KartikShankar<sup>3,4</sup>

- ✓ sensibilidade diminuída à insulina nas obesas provoca aumento da resposta insulínica no início da gestação afetando precocemente o crescimento placentário e expressão gênica
- ✓ liberação de fatores placentários (HPL, citocinas) que interagem com tecidos maternos responsáveis à insulina  
- músculo esquelético, fígado e adipócitos –  
reduzem a sensibilidade à insulina
- ✓ resultado é aumento na disponibilidade de nutrientes que contribui para adiposidade fetal evidente ao final da gestação

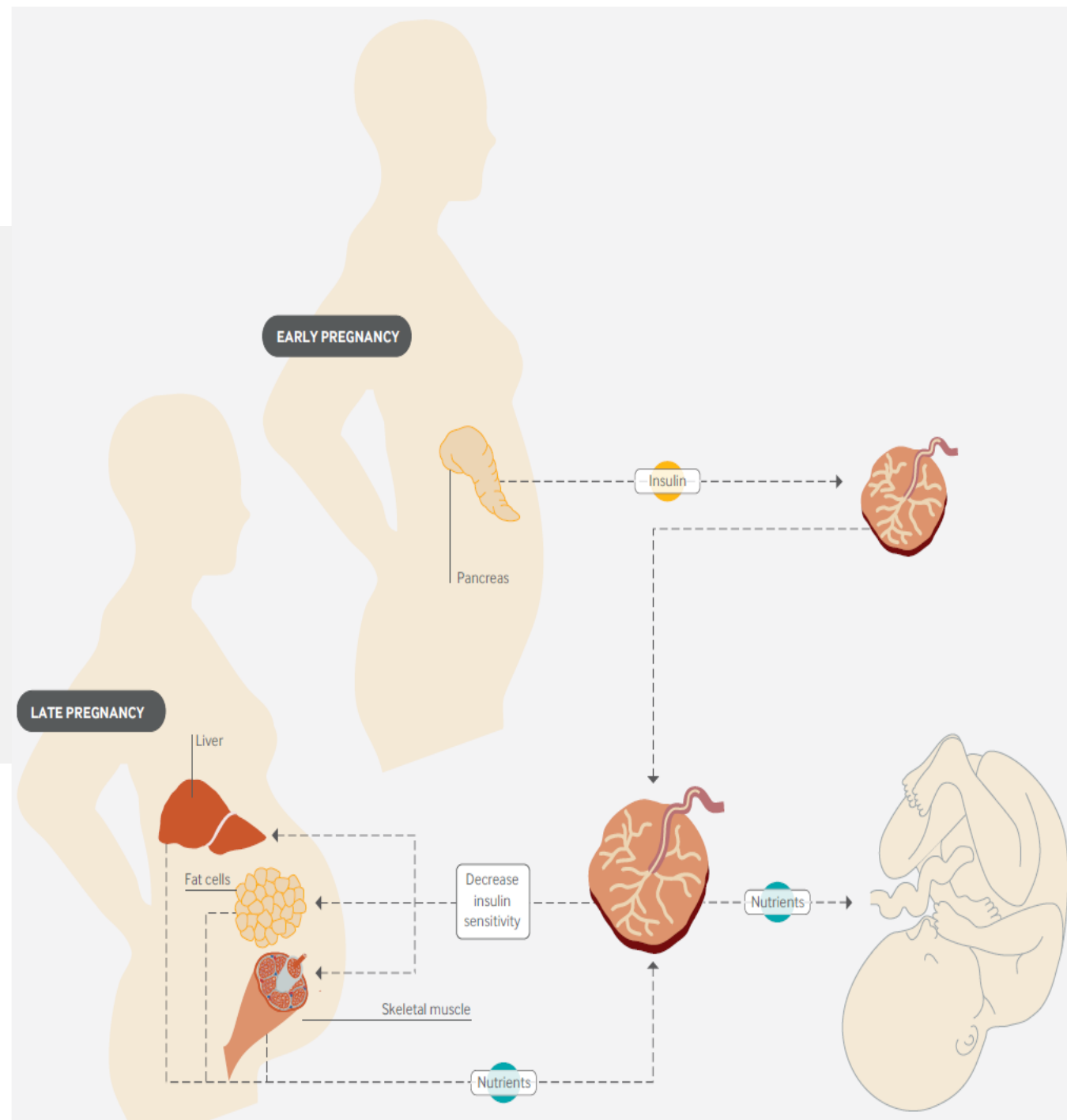
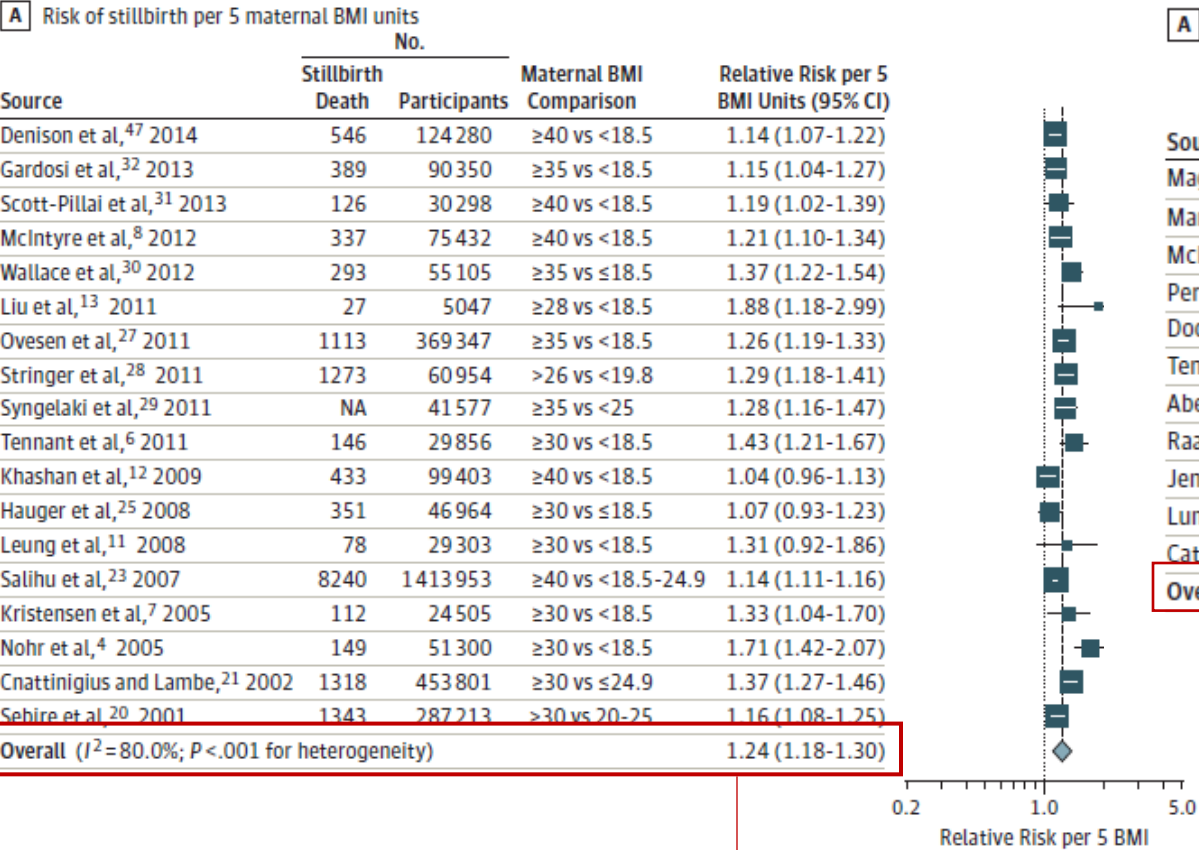


Figure 3. Association Between Maternal BMI and Risk of Stillbirth



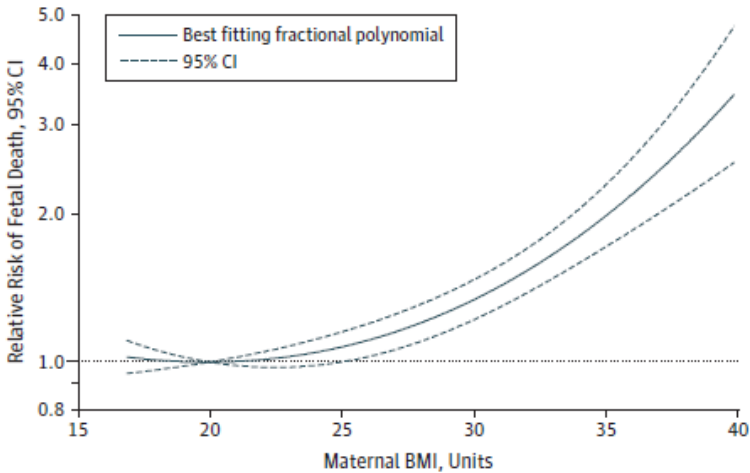
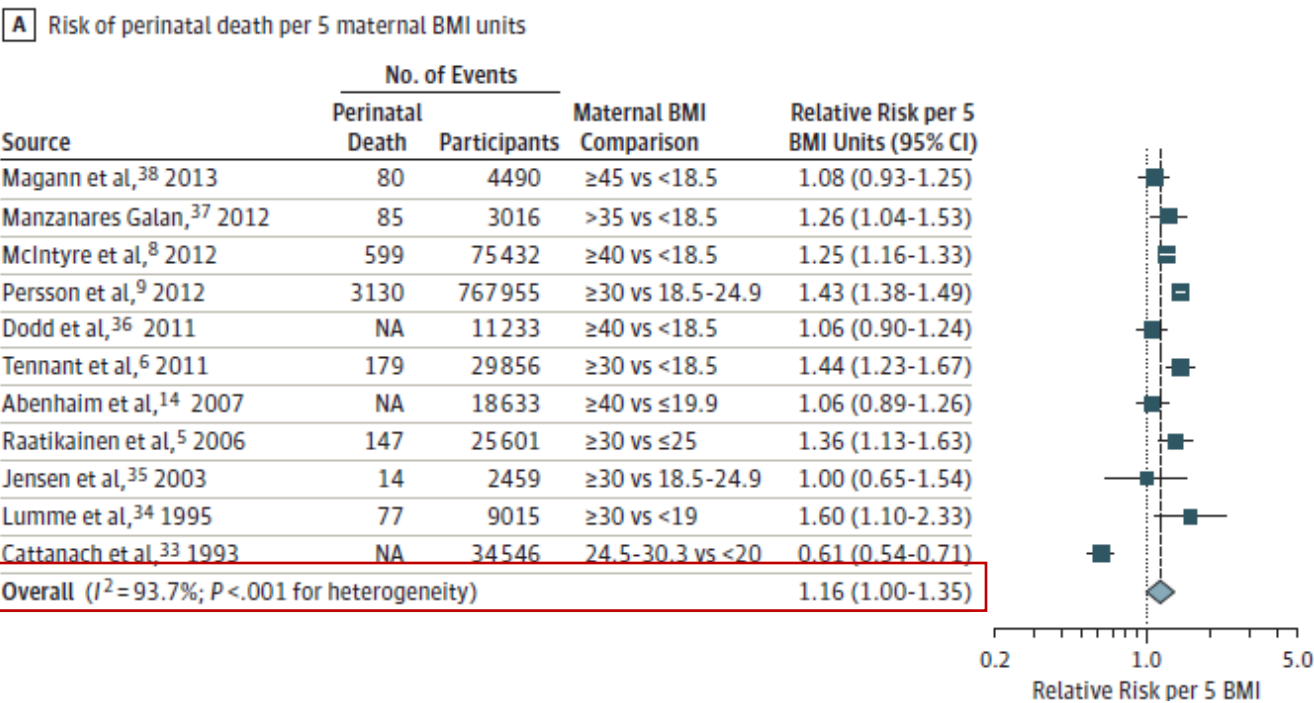
## Maternal Body Mass Index and the Risk of Fetal Death, Stillbirth, and Infant Death

### A Systematic Review and Meta-analysis

Dagfinn Aune, MS; Ola Didrik Saugstad, MD, PhD; Tore Henriksen, MD, PhD; Serena Tonstad, MD, PhD

JAMA. 2014;311(15):1536-1546. doi:10.1001/jama.2014.2269

Figure 4. Association Between Maternal BMI and Risk of Perinatal Death



# Maternal Body Mass Index and the Risk of Fetal Death, Stillbirth, and Infant Death

## A Systematic Review and Meta-analysis

Dagfinn Aune, MS; Ola Didrik Saugstad, MD, PhD; Tore Henriksen, MD, PhD; Serena Tonstad, MD, PhD

44 estudos n= 10.147 mortes fetais  
n= 16.274 mortes > 28 semanas  
n=4.311 mortes perinatais  
n= 11.294 mortes neonatais

cada aumento de 5 kg/m<sup>2</sup> no IMC **RR 1, 21** [1,09-1,35] morte fetal

**RR 1,24** [1,18-1,30] **morte intrauterina > 28 sem**

**RR 1,16** [ 1,0-1,35] **morte perinatal**

**RR 1,15** [ 1,07-1,23] **morte neonatal**

IMC 20kg/m<sup>2</sup> = referência

**25kg/m<sup>2</sup>** - **76,82** mortes fetais /10.000 gestações

**30kg/m<sup>2</sup>** - **102** mortes fetais / 10.000 gestações

**morte fetal, perinatal e neonatal têm associação consistente com IMC materno**  
**relação é dose-dependente – causalidade ?**

# Maternal body mass index and risk of birth and maternal health outcomes in low- and middle-income countries: a systematic review and meta-analysis

M. M. Rahman<sup>1,2</sup>, S. K. Abe<sup>1</sup>, M. Kanda<sup>1</sup>, S. Narita<sup>1</sup>, M. S. Rahman<sup>1</sup>, V. Bilano<sup>1</sup>, E. Ota<sup>3</sup>, S. Gilmour<sup>1</sup> and K. Shibuya<sup>1</sup>

**Table 4** Pregnancy and health outcomes attributed maternal body mass index (BMI)

Country	Prevalence, %	Population-attributable risk, %						
		Preterm birth	Low birthweight	Gestational diabetes	Pre- eclampsia	Pregnancy-induced hypertension	Caesarean delivery	Post-partum haemorrhage
Argentina								
Underweight	5.9	2.7			−0.4			
Overweight	19.3	−3.4			8.3			
Obese	8.2	−1.7			13.5			
Total BMI		−2.3			21.5			
Brazil								
Underweight	5.61			−2.0	−1.1	−0.7		
Overweight	25.13			16.5	4.2	15.8		
Obese	17.38			20.0	32.6	41.9		
Total BMI				44.9	35.7	57.0		

- ✓ obesidade ou sobrepeso materno associam-se a maior risco de dmg, dheg, cesariana\* e hemorragia pós-parto
- ✓ baixa estatura ou baixo peso associam-se a maior risco de RN baixo peso e pig

\* exceto no Brasil



# Maternal body mass index and risk of birth and maternal health outcomes in low- and middle-income countries: a systematic review and meta-analysis

M. M. Rahman<sup>1,2</sup>, S. K. Abe<sup>1</sup>, M. Kanda<sup>1</sup>, S. Narita<sup>1</sup>, M. S. Rahman<sup>1</sup>, V. Bilano<sup>1</sup>, E. Ota<sup>3</sup>, S. Gilmour<sup>1</sup> and K. Shibuya<sup>1</sup>

Outcomes	Number of studies	Underweight		Overweight		Obese	
		OR (95% CI)	Heterogeneity (P-value)	OR (95% CI)	Heterogeneity (P-value)	OR (95% CI)	Heterogeneity (P-value)
Pregnancy outcomes							
→ Preterm birth	11	1.13 (1.01–1.27)	81.2 (<0.001)	1.05 (0.91–1.20)	74.3 (<0.001)	1.21 (0.95–1.53)	79.3 (<0.001)
Low birthweight	8	1.66 (1.50–1.84)	0.0 (0.9)	0.81 (0.73–0.9)	0.0 (0.7)	0.75 (0.65–0.86)	6.5 (0.4)
Small for gestational age	5	1.85 (1.69–2.02)	0.0 (0.4)	0.74 (0.70–0.77)	35.7 (0.2)	0.60 (0.39–0.92)	72.3 (0.01)
→ Stillbirth	3	0.98 (0.37–2.58)	68.1 (0.04)	1.13 (0.87–1.45)	43.2 (0.2)	1.53 (0.63–3.71)	69.4 (0.1)
Maternal health outcomes							
Gestational diabetes	13	0.47 (0.43–0.52)	0.0 (0.6)	2.18 (1.90–2.51)	54.1 (0.01)	3.74 (2.89–4.84)	78.6 (<0.001)
Pregnancy-induced hypertension	5	0.50 (0.40–0.61)	0.0 (0.5)	2.27 (2.01–2.56)	0.1 (0.4)	5.61 (4.86–6.46)	0.0 (0.5)
Pre-eclampsia	8	0.70 (0.59–0.83)	21.7 (0.2)	1.98 (1.64–2.40)	63.2 (<0.01)	3.87 (3.48–4.29)	42.8 (0.1)
Caesarean delivery	7	0.62 (0.53–0.74)	93.6 (<0.001)	1.32 (1.10–1.58)	84.8 (<0.001)	1.86 (1.36–2.54)	90.4 (<0.001)
Post-partum haemorrhage	3	0.58 (0.49–0.69)	0.0 (0.7)	3.13 (1.00–9.81)	96.9 (<0.001)	3.48 (1.62–7.47)	90.5 (<0.001)

# Maternal early pregnancy obesity and related pregnancy and pre-pregnancy disorders: associations with child developmental milestones in the prospective PREDO Study.

Girchenko P<sup>1</sup>, Tuovinen S<sup>1</sup>, Lahti-Pulkkinen M<sup>2</sup>, Lahti J<sup>3</sup>, Savolainen K<sup>1</sup>, Heinonen K<sup>1</sup>, Pyhälä R<sup>1</sup>, Reynolds RM<sup>4</sup>, Hämäläinen E<sup>5</sup>, Villa PM<sup>6</sup>, Kajantie E<sup>7</sup>, Pesonen AK<sup>1</sup>, Laivuori H<sup>8,9,10,11</sup>, Räikkönen K<sup>12</sup>.

Prediction and Prevention of Pre-eclampsia and Intrauterine Growth Restriction (PREDO) study

## 2.504 pares de mães-crianças

- ✓ Filhos de mães **obesas** têm **OR 2,74 (p 0,02)** de **não atingir o desenvolvimento** típico para idade em comunicação, motricidade ampla e fina, solução de problemas e habilidades sociais
- ✓ Filhos de mães com **sobrepeso** têm **OR 2,14 (p 0,002)** para os mesmos desfechos
- ✓ Filhos de mães com **pré-eclampsia e DMG** também têm maiores riscos de atraso de desenvolvimento

# Effect of a behavioural intervention in obese pregnant women (the UPBEAT study): a multicentre, randomised controlled trial

Lucilla Poston, Ruth Bell, Helen Croker, Angela C Flynn, Keith M Godfrey, Louise Goff, Louise Hayes, Nina Khazaezadeh, Scott M Nelson, Eugene Oteng-Ntim, Dharmindra Pasupathy, Nashita Patel, Stephen C Robson, Jane Sandall, Thomas A B Sanders, Naveed Sattar, Paul T Seed, Jane Wardle, Melissa K Whitworth, Annette L Briley, on behalf of The UPBEAT Trial Consortium\*

## UK Pregnancies Better Eating and Activity Trial (**UPBEAT**)

ECR em 8 hospitais multi-étnicos

gestantes 15-18+6 > 16 anos IMC  $\geq 30$  kg/m<sup>2</sup>

pré-natal convencional (722) vs intervenção comportamental (783)

DMG 26% vs 25% OR 0,96 [0,79 – 1,16] p 0,68

GIG 8% vs 9% OR 1,15 [0,83 – 1,59] p 0,40

# Association of Gestational Weight Gain With Maternal and Infant Outcomes

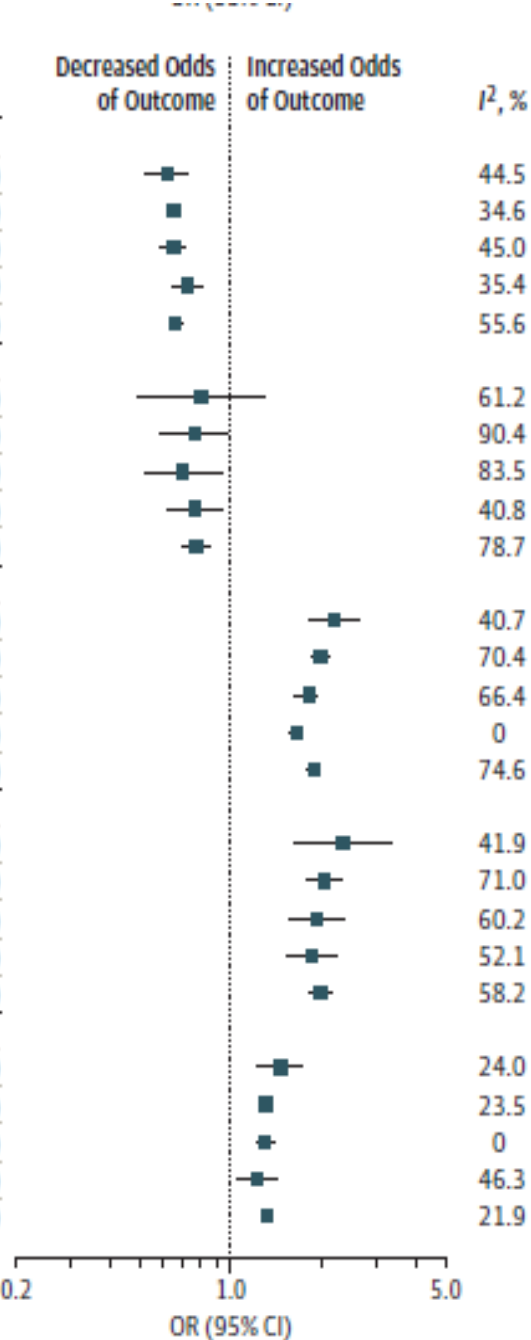
## A Systematic Review and Meta-analysis

Rebecca F. Goldstein, MBBS, FRACP; Sally K. Abell, MBBS, FRACP; Sanjeeva Ranasinha, MSc, MEpi; Marie Misso, MSc, PhD; Jacqueline A. Boyle, MBBS, FRANZCOG, PhD; Mary Helen Black, MS, PhD; Nan Li, MSc; Gang Hu, MD, MPH, PhD; Francesco Corrado, MD; Line Rode, MD, PhD; Young Ju Kim, MD, PhD; Margaretha Haugen, BSc, PhD; Won O. Song, MPH, PhD; Min Hyoungh Kim, MD, PhD; Annick Bogaerts, RM, MSc, PhD; Roland Devlieger, MD, PhD; Judith H. Chung, MD, PhD; Helena J. Teede, MBBS, FRACP, PhD



**B** Above recommended gestational weight gain

Outcomes by BMI category	Studies, No.	Women, No.	OR (95% CI)
<b>SGA</b>			
<18.5	9	13 711	0.62 (0.53-0.72)
18.5-24.9	9	88 780	0.65 (0.62-0.68)
25-29.9	9	110 665	0.65 (0.59-0.71)
≥30	10	103 820	0.72 (0.65-0.80)
Overall			0.66 (0.63-0.69)
<b>Preterm birth</b>			
<18.5	4	4063	0.80 (0.50-1.28)
18.5-24.9	4	60 324	0.76 (0.59-0.97)
25-29.9	4	11 162	0.70 (0.53-0.93)
≥30	4	30 809	0.76 (0.62-0.93)
Overall			0.77 (0.69-0.86)
<b>LGA</b>			
<18.5	10	13 978	2.17 (1.81-2.60)
18.5-24.9	11	215 994	1.95 (1.83-2.08)
25-29.9	11	142 236	1.79 (1.61-1.98)
≥30	11	104 459	1.63 (1.56-1.70)
Overall			1.85 (1.76-1.95)
<b>Macrosomia</b>			
<18.5	7	2214	2.31 (1.62-3.29)
18.5-24.9	9	35 928	2.01 (1.77-2.27)
25-29.9	9	17 627	1.90 (1.54-2.33)
≥30	9	1035	1.83 (1.52-2.22)
Overall			1.95 (1.79-2.11)
<b>Cesarean delivery</b>			
<18.5	7	2227	1.45 (1.22-1.71)
18.5-24.9	7	35 416	1.30 (1.24-1.36)
25-29.9	7	17 419	1.29 (1.21-1.39)
≥30	7	9012	1.22 (1.05-1.42)
Overall			1.30 (1.25-1.35)



# Association of Gestational Weight Gain With Maternal and Infant Outcomes

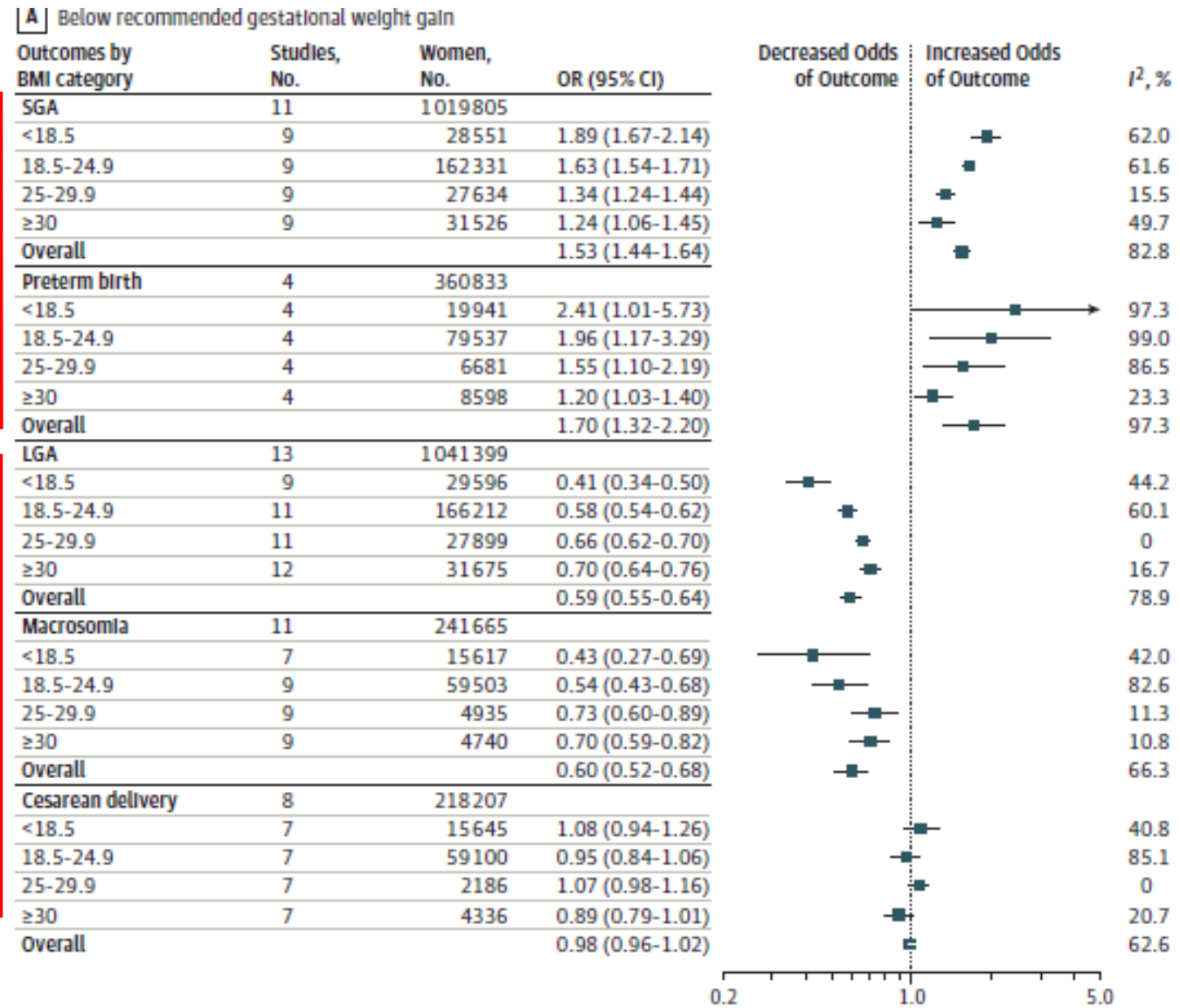
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Metanálise com > 1 milhão gestantes

- ✓ 47% ganharam mais que o recomendado pelo IOM
- ✓ 23% ganharam menos que o recomendado

ganho de peso gestacional maior ou menor que o recomendado pelo IOM associou-se a aumento do risco de desfechos adversos maternos e fetais



# Association of Timing of Weight Gain in Pregnancy With Infant Birth Weight

Ravi Retnakaran, MD; Shi Wu Wen, PhD; Hongzhuan Tan, PhD; Shujin Zhou, MD; Chang Ye, MSc; Minxue Shen, PhD; Graeme N. Smith, MD; Mark C. Walker, MD

1164 mulheres com aferição de peso pré-gestacional e em 10 períodos durante a gestação

- ✓ peso pré-gestacional esteve consistentemente associado ao peso do RN
- ✓ somente o ganho de peso até 14 semanas e aquele entre 14 e 18 semanas associaram-se ao peso do RN
- ✓ peso RN aumentou 13,6g para cada kg de peso materno ganho até 14 sem 26,1g para cada kg de peso materno ganho entre 14-18sem

- ▶ ganho peso gestacional na 1ª metade da gestação é o maior determinante do peso de nascimento.
- ▶ período pré-concepção e o início da gestação são os períodos críticos para intervenção no peso do RN

Table 3. Associations of Prepregnancy Weight and Weight Gain Within Each Gestational Interval With Infant Birth Weight

Model	Maternal Weight Variable	Infant Birth Weight, g, $\beta$ (95% CI) <sup>a</sup>	
		Analyses With Observed Data	Analyses With Multiple Imputation Data
1	Prepregnancy weight	15.2 (8.7 to 21.7) <sup>b</sup>	15.6 (11.5 to 19.8) <sup>b</sup>
	Weight gain from pregravid to 14 wk	13.6 (3.2 to 24.1) <sup>b</sup>	13.2 (5.5 to 20.9) <sup>b</sup>
2	Prepregnancy weight	14.4 (8.0 to 21.7) <sup>b</sup>	14.4 (10.3 to 18.4) <sup>b</sup>
	Weight gain from 14 to 18 wk	26.1 (3.8 to 48.4) <sup>b</sup>	22.0 (5.6 to 38.3) <sup>b</sup>
3	Prepregnancy weight	13.9 (8.0 to 19.7) <sup>b</sup>	14.0 (9.9 to 18.0) <sup>b</sup>
	Weight gain from 19 to 23 wk	11.3 (−8.9 to 31.5)	15.6 (−5.2 to 27.8)
4	Prepregnancy weight	12.5 (6.4 to 18.6) <sup>b</sup>	13.0 (7.0 to 19.1) <sup>b</sup>
	Weight gain from 24 to 28 wk	15.3 (−4.1 to 34.8)	15.6 (−3.6 to 34.8)
5	Prepregnancy weight	15.3 (9.2 to 21.3) <sup>b</sup>	15.3 (9.3 to 21.3) <sup>b</sup>
	Weight gain from 29 to 30 wk	−1.4 (−26.6 to 23.8)	−2.3 (−27.2 to 22.5)
6	Prepregnancy weight	24.7 (16.2 to 33.1) <sup>b</sup>	25.0 (16.7 to 33.3) <sup>b</sup>
	Weight gain from 31 to 32 wk	−1.0 (−39.9 to 37.9)	−2.0 (−40.0 to 35.9)
7	Prepregnancy weight	21.4 (12.8 to 30.2) <sup>b</sup>	21.5 (12.8 to 30.1) <sup>b</sup>
	Weight gain from 33 to 34 wk	15.6 (−39.6 to 70.8)	13.8 (−40.4 to 68.1)
8	Prepregnancy weight	15.7 (8.0 to 23.4) <sup>b</sup>	15.5 (7.9 to 23.0) <sup>b</sup>
	Weight gain from 35 to 36 wk	4.6 (−32.9 to 42.0)	4.8 (−32.0 to 41.5)
9	Prepregnancy weight	17.5 (11.4 to 23.8) <sup>b</sup>	14.3 (10.2 to 18.3) <sup>b</sup>
	Weight gain from 37 to 38 wk	7.9 (−18.9 to 34.7)	16.9 (−8.1 to 41.8)
10	Prepregnancy weight	16.5 (10.3 to 22.7) <sup>b</sup>	14.1 (10.0 to 18.2) <sup>b</sup>
	Weight gain from 39 to 40 wk	−2.0 (−34.8 to 30.9)	2.3 (−30.1 to 36.8)



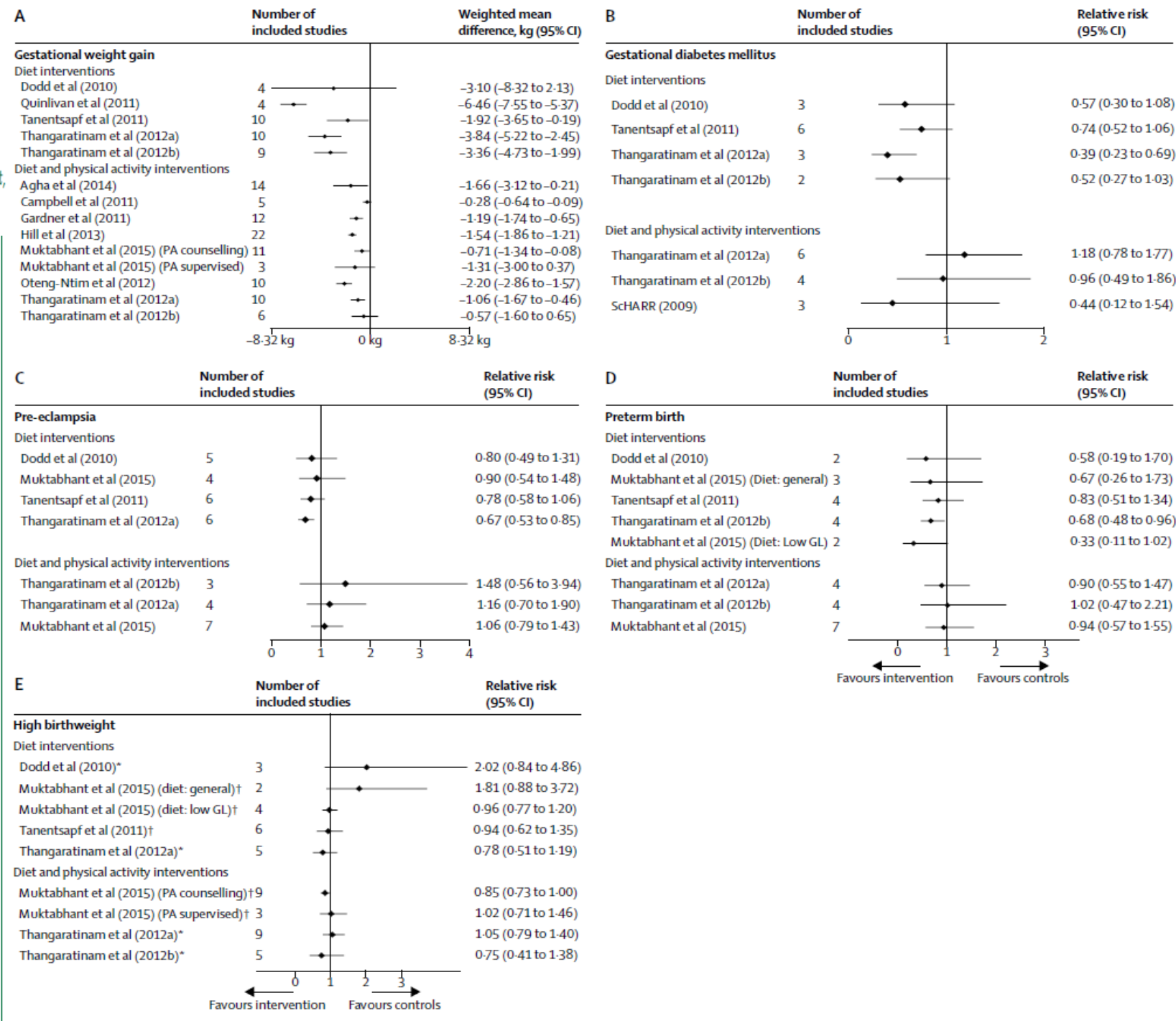
# Before the beginning: nutrition and lifestyle in the preconception period and its importance for future health

Judith Stephenson, Nicola Heslehurst, Jennifer Hall, Danielle A J M Schoenaker, Jayne Hutchinson, Janet E Cade, Lucilla Poston, Geraldine Barrett, Sarah R Crozier, Mary Barker, Kalyanaraman Kumaran, Chittaranjan S Yajnik, Janis Baird, Gita D Mishra

226.958 mulheres canadenses com gestações únicas  
64% peso normal 20% sobrepeso  
12% obesas

redução de 10% no IMC pré-gestacional  
reduziu risco clinicamente significativo de

pré-eclampsia DMG parto pré-termo  
macrossomia e morte intrauterina > 28 sem





Centre for Maternal and Child Enquiries  
*Improving the health of mothers, babies and children*



Royal College of  
Obstetricians and  
Gynaecologists

Setting standards to improve women's health

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## **Management of Women with Obesity in Pregnancy**



**Prepregnancy:**

Care for all women  
with BMI  $\geq 30$

Aconselhamento dos  
riscos da obesidade

Apoio redução peso

Folato 5mg/d pelo menos  
1mês pré-concepção

Additional care  
for women with  
BMI  $\geq 35$

Additional care  
for women with  
BMI  $\geq 40$

**Booking visit:**

Altura e peso – IMC

Esfigmo adequado para PA

Folato 5mg/d até 12 sem

Vitamina D 400 UI

AAS 75mg se fator risco adicional

Avaliação risco tromboembolismo

TTG 24-28 sem

Discutir plano parto

**As above plus:**

- Refer to specialist care if one or more additional risk factor for pre-eclampsia<sup>a</sup>

Avaliação anestésica antenatal

**Throughout pregnancy**

- Assess thromboembolism risk
- Thromboprophylaxis if indicated
- Use appropriate size BP cuff

rastreio PE 3/3 sem - 24-32sem

2/ 2 sem - 32 sem em diante

**Third trimester:**

TTG 75g – 2h 24-28sem

Amamentação

**As above plus:**

- Re-measure maternal weight
- Risk assessment for manual handling requirements



# Royal College of Obstetricians and Gynaecologists

Setting standards to improve women's health

## Management of Women with Obesity in Pregnancy

	Labour and delivery:	Following childbirth:
Care for all women with BMI $\geq 30$	<div>Manejo ativo 3º período</div> <div>ATB profilático antes cesariana</div> <div>Sutura subcutâneo &gt; 2cm</div>	<div>Tromboprofilaxia puerperal por 7d se <math>\geq 1</math> fator de risco</div> <div>Meias elásticas</div> <div>Amamentação</div> <div>Aconselhamento nutricional</div> <div>Rastreio anual para DM tipo2</div>
Additional care for women with BMI $\geq 35$	<div>Parto em hospital com obstetra</div> <div>Alertar equipe sobre sala cirúrgica se peso &gt; 120kg</div>	
Additional care for women with BMI $\geq 40$	<div>Alertar plantão anestésico para epidural precoce</div> <div>Acesso venoso precoce</div> <div>Time sênior obstétrico e anestésico para parto ou cesariana</div>	<div>Tromboprofilaxia puerperal por 7 dias em qualquer caso</div>

## Reducing the Risk of Venous Thromboembolism during Pregnancy and the Puerperium

Green-top Guideline No. 37a  
April 2015

Risk factors for VTE		
Pre-existing risk factors	Tick	Score
<b>Previous VTE (except a single event related to major surgery)</b>		4
Previous VTE provoked by major surgery		3
Known high-risk thrombophilia		3
Medical comorbidities e.g. cancer, heart failure; active systemic lupus erythematosus, inflammatory polyarthropathy or inflammatory bowel disease; nephrotic syndrome; type I diabetes mellitus with nephropathy; sickle cell disease; current intravenous drug user		3
Family history of unprovoked or estrogen-related VTE in first-degree relative		1
Known low-risk thrombophilia (no VTE)		1 <sup>a</sup>
Age (> 35 years)		1
Obesity		1 or 2 <sup>b</sup>
Parity ≥ 3		1
Smoker		1
Gross varicose veins		1
Obstetric risk factors		
Pre-eclampsia in current pregnancy		1
ART/IVF (antenatal only)		1
Multiple pregnancy		1
Caesarean section in labour		2
Elective caesarean section		1
Mid-cavity or rotational operative delivery		1
Prolonged labour (> 24 hours)		1
PPH (> 1 litre or transfusion)		1
Preterm birth < 37 <sup>wo</sup> weeks in current pregnancy		1
Stillbirth in current pregnancy		1
Transient risk factors		
Any surgical procedure in pregnancy or puerperium except immediate repair of the perineum, e.g. appendicectomy, postpartum sterilisation		3
Hyperemesis		3
<b>OHSS (first trimester only)</b>		4
Current systemic infection		1
Immobility, dehydration		1
<b>TOTAL</b>		

**BMI ≥ 30 = 1   BMI ≥ 40 = 2**

- Escore ≥ 4 antenatal – tromboprofilaxia a partir do 1º trimestre
- Escore = 3 antenatal – tromboprofilaxia a partir 28 sem
- **Escore ≥ 2 pós-natal – tromboprofilaxia mínimo de 10 dias**
- Admissão antenatal - tromboprofilaxia
- Admissão ≥ 3 dias ou readmissão no puerpério - tromboprofilaxia



# PRACTICE BULLETIN

CLINICAL MANAGEMENT GUIDELINES FOR OBSTETRICIAN–GYNECOLOGISTS

NUMBER 156, DECEMBER 2015

(Replaces Committee Opinion Number 549, January 2013)

## Obesity in Pregnancy

- ✓ rastreamento **precoce** para diabetes/DMG
- ✓ morte intrauterina é mais frequente mas não há evidência de redução com avaliação anteparto
- ✓ dreno SC na cesariana aumenta risco de complicações de FO e NÃO deve ser usado de rotina
- ✓ 1º período do parto é mais longo – permitir evolução mais lenta antes de indicar cesariana
- ✓ trombopprofilaxia mecânica antes e depois da cesariana
- ✓ trombopprofilaxia farmacológica com ajuste de dose pelo peso

**Table 5. Detection of Fetal Anomalies** ↩

Body Mass Index	Standard Ultrasonography	Targeted Ultrasonography
Normal (less than 25)	66%	97%
Overweight (25–29.9)	49%	91%
Class I obesity (30–34.9)	48%	75%
Class II obesity (35–39.9)	45%	88%
Class III obesity (40 or more)	22%	75%

Data from Dashe JS, McIntire DD, Twickler DM. Effect of maternal obesity on the ultrasound detection of anomalous fetuses. *Obstet Gynecol* 2009;113:1001–7.

**Table 2. Increases in Congenital Anomalies in Obese Versus Nonobese Gravidas** ↩

Congenital Anomaly	Increased Risk
Neural tube defects	OR, 1.87; 95% CI, 1.62–2.15
Spina bifida	OR, 2.24; 95% CI, 1.86–2.69
Cardiovascular anomalies	OR, 1.30; 95% CI, 1.12–1.51
Septal anomalies	OR, 1.20; 95% CI, 1.09–1.31
Cleft palate	OR, 1.23; 95% CI, 1.03–1.47
Cleft lip and palate	OR, 1.20; 95% CI, 1.03–1.40
Anorectal atresia	OR, 1.48; 95% CI, 1.12–1.97
Hydrocephaly	OR, 1.68; 95% CI, 1.19–2.36
Limb reduction anomalies	OR, 1.34; 95% CI, 1.03–1.73

Maternal obesity 2

Clinical management of pregnancy in the obese mother:  
before conception, during pregnancy, and post partum

Ronald ChingWan Ma, Maria Ines Schmidt, Wing Hung Tam, Harold David McIntyre, Patrick M Catalano

	Early pregnancy testing	Standard gestational diabetes test (second to third trimester)	Criteria for diagnosing gestational diabetes
WHO* (global)	Yes. Diabetes and gestational diabetes	75 g OGTT	Any of the following: fasting glucose concentration $\geq 5.1$ mmol/L; 1 h OGTT concentration $\geq 10.0$ mmol/L; 2 h OGTT $\geq 8.5$ mmol/L
ACOG* (USA)	Yes in presence of risk factors, including maternal BMI $\geq 30$ kg/m <sup>2</sup> , history of gestational diabetes	Two step: non-fasting 50 g glucose challenge test, followed by 100 g OGTT if glucose challenge test $\geq 7.8$ mmol/L	Fasting glucose concentration $\geq 5.3$ mmol/L; for OGTT: 1 h glucose $\geq 10.0$ mmol/L; 2 h glucose $\geq 8.6$ mmol/L; 3 h glucose $\geq 7.8$ mmol/L (two values $\geq$ threshold for diagnosis)
ADA (USA)	Not specified	WHO or ACOG approach*	WHO or ACOG criteria*
Endocrine Society (USA)	Yes. Aimed at detection of overt diabetes	75 g OGTT	Any of the following: fasting glucose concentration $\geq 5.1$ mmol/L; 1 h OGTT $\geq 10.0$ mmol/L; 2 h OGTT $\geq 8.5$ mmol/L
NICE (UK)	Only if previous gestational diabetes	75 g OGTT	Either of these values: fasting glucose concentration $\geq 5.6$ mmol/L; 2 h OGTT $\geq 7.8$ mmol/L
EBCOG (Europe)	Yes. Aimed at detection of overt diabetes	Either WHO or ACOG approach*	Fasting glucose concentration* $\geq 5.1$ mmol/L; 1 h OGTT $\geq 10.0$ mmol/L; 2 h OGTT $\geq 8.5$ mmol/L
OGTT=oral glucose tolerance test. ACOG=American College of Obstetrics and Gynecology. ADA=American Diabetes Association. NICE=National Institute for Health and Care Excellence. EBCOG=European Board and College of Obstetrics and Gynaecology. *Using the approach or criteria defined by WHO and ACOG.			
Table 4: Recommended testing for gestational diabetes in obese pregnant women			

## Maternal obesity 2

### Clinical management of pregnancy in the obese mother: before conception, during pregnancy, and post partum

*Ronald Ching Wan Ma, Maria Ines Schmidt, Wing Hung Tam, Harold David McIntyre, Patrick M Catalano*

#### **Panel: Summary of management of overweight and obese women before and through pregnancy**

##### **Counselling before conception**

- Discuss reduced fertility and risks of pregnancy associated with obesity
- Advise on lifestyle interventions and goals for weight loss
- Refer for nutritional counselling
- Folic acid supplementation
- Assess for surgical interventions in selected cases

##### **Antenatal care**

- Record weight, height, and BMI and advise on appropriate targets of gestational weight gain
- Counsel on nutrition and physical activity to promote healthy behaviours
- Assess social determinants of health
- Monitor blood pressure
- Screen for gestational diabetes
- Screen for obstructive sleep apnoea

##### **Perinatal care**

- Require obstetric and anaesthesiology expertise
- Anaesthesia consultation
- Prescribe prophylactic antibiotics for caesarean delivery

##### **Postnatal care**

- Deep vein thrombosis prophylaxis with caesarean delivery
- Encourage breastfeeding
- Vigilance for post-partum complications
- Post-partum oral glucose tolerance test in patients with gestational diabetes
- Education regarding inter-pregnancy weight loss
- Education regarding long-term risk in mother and offspring and empowering behavioural modification
- Advise on contraception



# Adjunctive Azithromycin Prophylaxis for Cesarean Delivery

Alan T.N. Tita, M.D., Ph.D., Jeff M. Szychowski, Ph.D., Kim Boggess, M.D., George Saade, M.D., Sherri Longo, M.D., Erin Clark, M.D., Sean Esplin, M.D., Kirsten Cleary, M.D., Ron Wapner, M.D., Kellett Letson, M.D., Michelle Owens, M.D., Adi Abramovici, M.D., Namasivayam Ambalavanan, M.D., Gary Cutter, Ph.D., and William Andrews, M.D., Ph.D., for the C/SOAP Trial Consortium\*

14 hospitais EUA com 2013 gestantes ≥ 24sem - cesariana em TP ou BR  
1019 – cefazolina + azitromicina 500mg IV  
994 – cefazolina + placebo

Incidência ✓ endometrite  
✓ infecção FO ou  
✓ qualquer outra até 6 semanas pós-parto

**Table 3. Primary Composite Outcome and Its Components.\***

Outcome	Azithromycin (N= 1019)  no. (%)	Placebo (N= 994)	Relative Risk (95% CI)	P Value
<b>Primary composite outcome</b>	62 (6.1)	119 (12.0)	0.51 (0.38–0.68)	<0.001
Endometritis	39 (3.8)	61 (6.1)	0.62 (0.42–0.92)	0.02
Wound infection	24 (2.4)	66 (6.6)	0.35 (0.22–0.56)	<0.001
Necrotizing fasciitis	0	4 (0.4)	NA	0.06
Deep wound infection	6 (0.6)	8 (0.8)	0.73 (0.25–2.10)	0.56
Other infection	3 (0.3)	6 (0.6)	0.49 (0.12–1.94)	0.34
Abdominal or pelvic abscess	0	4 (0.4)	NA	0.06
Septic pelvic thrombophlebitis	0	0	NA	NA
Maternal sepsis	2 (0.2)	1 (0.1)	1.95 (0.18–21.5)	>0.99
Pyelonephritis	1 (0.1)	0	NA	>0.99
Pneumonia	1 (0.1)	2 (0.2)	0.49 (0.04–5.37)	0.62

<b>Maternal</b>				
Postpartum fever	51 (5.0)	81 (8.1)	0.61 (0.44–0.86)	0.004
Any postpartum readmission or unscheduled visit	83 (8.1)	123 (12.4)	0.66 (0.51–0.86)	0.002
Clinic visit	32 (3.1)	53 (5.3)	0.59 (0.38–0.91)	0.02
Emergency department visit	54 (5.3)	84 (8.5)	0.63 (0.45–0.87)	0.005
Readmission	27 (2.6)	49 (4.9)	0.54 (0.34–0.85)	0.007
Because of infection	23 (2.3)	62 (6.2)	0.36 (0.23–0.58)	<0.001
Postpartum use of antibiotics	126 (12.4)	166 (16.7)	0.74 (0.60–0.92)	0.006
<b>Composite serious adverse events†</b>				
<b>Neonatal serious adverse events</b>				
Any	7 (0.7)	5 (0.5)	1.37 (0.43–4.29)	0.77
Safety composite‡	3 (0.3)	1 (0.1)	2.93 (0.30–28.1)	0.62
<b>All maternal serious adverse events§</b>	15 (1.5)	29 (2.9)	0.50 (0.27–0.94)	0.03

✓ redução de **50%** no desfecho primário  
✓ desfechos neonatais similares nos 2 grupos  
14.3% vs. 13.6% p = 0.63

## Before the beginning: nutrition and lifestyle in the preconception period and its importance for future health

*Judith Stephenson, Nicola Heslehurst, Jennifer Hall, Danielle A J M Schoenaker, Jayne Hutchinson, Janet E Cade, Lucilla Poston, Geraldine Barrett, Sarah R Crozier, Mary Barker, Kalyanaraman Kumaran, Chittaranjan S Yajnik, Janis Baird, Gita D Mishra*

- ▶ intervenções para melhorar dieta na gestação levam a modestas reduções no ganho peso gestacional, mas não melhoram importantes desfechos maternos ou do RN
- ▶ suplementação de micronutrientes na gestação podem corrigir deficiências nutricionais mas não melhoram desfechos do RN – possivelmente porque as intervenções começam após o período crítico do desenvolvimento fetal
- ▶ na perspectiva de saúde pública o **período pré-concepção** é um momento sensível, como a adolescência, quando comportamentos como dieta, exercício e obesidade, tabagismo e álcool tornam-se estabelecidos
- ▶ consequências adversas da má-nutrição e obesidade atingem em cheio as mulheres de idade reprodutiva e se estendem às próximas gerações



# Palestrantes Internacionais Confirmados



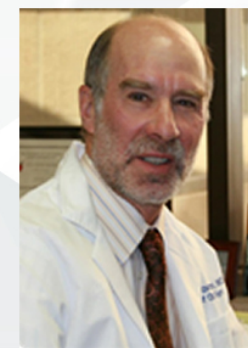
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