

Body image self-perception before pregnancy and adequacy of gestational weight gain

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Self-perception of body image influences weight management in non-pregnant women.

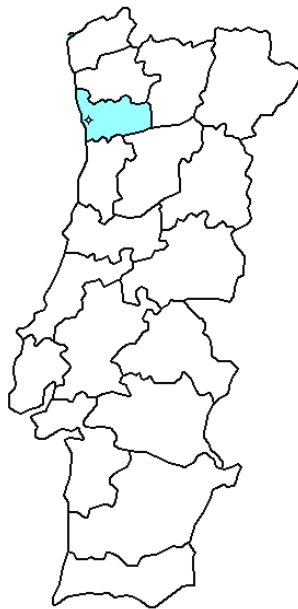
The adequacy of gestational weight gain is a major determinant of pregnancy-related complications, birth outcome and postpartum weight retention.

Does the self-perception of pre-pregnancy body image influence the adequacy of gestational weight gain?

Objective

To quantify the association between the self-perception of pre-pregnancy body image and adequacy of gestational weight gain.

Participants

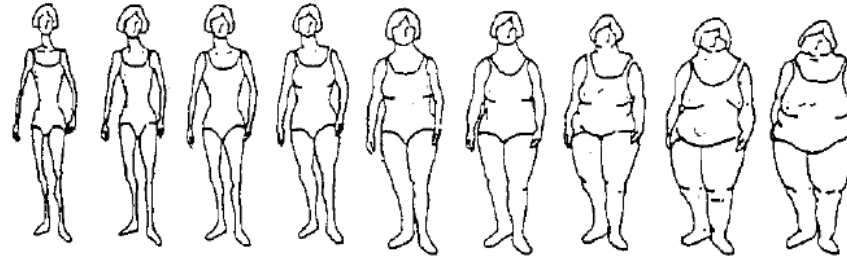


- Geração XXI: birth cohort, assembled based on pregnant women delivered at five level III maternity units;
- May '05 and August '06;
- Puerperium;
- 70% of eligible women participated (n=8500);

- In this study: 5582 women delivering singleton infants, with data on anthropometry and body image.

- Information on social, clinical and anthropometric data collected by in-person interviews using structured questionnaires (24-72h after delivery).
- Pre-pregnancy and pre-partum weights were self-reported.
- Height was measured after delivery.

Body image self perception: Stunkard silhouettes



Stunkard A. et al. The genetics of neurological and psychiatric disorders, 1983

- Stunkard silhouettes were converted into body mass index (BMI).

Bulik C. Int J Obes, 2001

Women's body image perception (Pre-pregnancy BMI – BMI figure)

Thinner	Accurate	Larger
	-2.50 kg/m ²	2.50 kg/m ²

Gestational weight gain

Gestational weight gain: difference between self-reported pre-partum and pre-pregnancy weights.

Adequacy of gestational weight gain: US Institute of Medicine recommendations

Weight categories	BMI (kg/m ²)	Recommended weight gain (kg)
Underweight	<19.8	12.5 – 18.0
Normal weight	19.8 to 26.0	11.5 – 16.0
Overweight	26.1 to 29.0	7.0 – 11.5
Obese	>29.0	≤7.0

Institute of Medicine. Nutrition during pregnancy, 1990

Statistical analysis

- Multinomial logistic regression models were fitted to quantify the association between body image self perception and adequacy of gestational weight gain.
- Statistical analyses were performed using SPSS package, version 14.0.

		Total n=5582	Women self rated			p
			Thinner n=1365	Accurate n=3515	Larger n=702	
Age (years)	Mean (SD)	28.9 (5.5)	29.4 (5.5)	28.6 (5.5)	28.9 (5.5)	<0.001
Education (years)	Mean (SD)	10.6 (4.2)	9.5 (4.0)	10.9 (4.1)	11.0 (4.3)	<0.001
Marital status						
Not married	%	6.3	4.7	6.6	8.1	0.006
No pregnancies						
1	%	48.7	38.8	51.4	54.1	<0.001
Planned pregnancies	%	67.1	66.8	67.7	64.8	0.423
Pre-pregnancy BMI						
underweight	%	11.7	0.0	12.7	29.6	<0.001
normal weight		62.7	34.9	74.3	58.5	
overweight		13.6	29.1	8.7	8.0	
obese		12.0	36.0	4.3	3.8	

	Women self rated	
	Thinner OR (95% CI)	Larger OR (95% CI)
Age		
≤ 30 years	0.76 (0.67; 0.87)	0.90 (0.76; 1.06)
> 30 years	1	1
Education		
≤ 9 years	1.69 (1.49; 1.92)	0.96 (0.81; 1.13)
> 9 years	1	1
Marital status		
not married	0.70 (0.53; 0.93)	1.26 (0.93; 1.70)
married	1	1
No pregnancies		
1	0.60 (0.53; 0.68)	1.11 (0.95; 1.31)
> 1	1	1

Reference category: accurate body image self perception

Adequacy of gestational weight gain

		BMI \leq 19.8kg/m ²		
		Inadequate	Adequate	Excessive
Thinner	%	-	-	-
	OR	-	-	-
Accurate	%	31.3	45.9	22.8
	OR	1	1	1
Larger	%	30.3	45.2	24.5
	OR (95% CI)	0.94 (0.64; 1.39)	1	1.13 (0.74; 1.71)

OR adjusted for maternal age, education and gravidity

Adequacy of gestational weight gain

		19.8 ≤ BMI ≤ 26.0kg/m ²		
		Inadequate	Adequate	Excessive
Thinner	%	36.3	38.9	24.8
	OR (95% CI)	1.35 (1.07; 1.70)	1	0.81 (0.63; 1.05)
Accurate	%	27.0	41.3	31.7
	OR	1	1	1
Larger	%	22.1	36.8	41.1
	OR (95% CI)	0.95 (0.72; 1.25)	1	1.50 (1.18; 1.91)

OR adjusted for maternal age, education and gravidity

Adequacy of gestational weight gain

		26.1 ≤ BMI ≤ 29.0kg/m ²		
		Inadequate	Adequate	Excessive
Thinner	%	15.3	34.4	50.3
	OR (95% CI)	0.77 (0.48; 1.24)	1	0.69 (0.48; 0.98)
Accurate	%	14.8	25.9	59.3
	OR	1	1	1
Larger	%	7.1	25.0	67.9
	OR (95% CI)	0.54 (0.17; 1.75)	1	1.36 (0.68; 2.71)

OR adjusted for maternal age, education and gravidity

Adequacy of gestational weight gain

		BMI > 29.0kg/m ²		
		Inadequate	Adequate	Excessive
Thinner	%	-	32.2	67.8
	<i>OR</i> <i>(95% CI)</i>	-	1	0.45 (0.28; 0.71)
Accurate	%	-	17.9	82.1
	<i>OR</i>	-	1	1
Larger	%	-	11.1	88.9
	<i>OR</i> <i>(95% CI)</i>	-	1	1.72 (0.48; 6.15)

OR adjusted for maternal age, education and gravidity

Limitations & Strengths

Limitations

- Pre-pregnancy and pre-partum weights were self-reported
- Pre-pregnancy body image self perception evaluated at puerperium

Strengths

- Large sample size
- Data collected by trained interviewers using structured questionnaires
- Expected womens' follow-up → long term implications of these results

Conclusions

- Body image can be an important tool to predict adequacy of gestational weight gain:
 - Normoponderal women who self rated as thinner had higher risk to gain less weight during pregnancy than recommended, while those who perceived themselves as larger were more prone to gain excessive weight;
 - Overweight and obese women who self rated as thinner were less likely to gained excessive weight.

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Thank you!

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