

# Effectiveness of a normative nutrition intervention in Chilean pregnant women on maternal and neonatal outcomes: the CHiMINCs study

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## Abstract

Background: Some nutritional interventions have shown their efficacy in reducing gestational weight gain (GWG); however, their applicability in routine care is limited.

Objective: We assessed the effectiveness of a low-intensity and high-coverage nutritional intervention on maternal and offspring outcomes; the intervention enhanced existing nutritional health care standards and practices at the primary health care level in Chile.

Methods: This study was a cluster-randomized controlled trial of 12 primary health care centers (PHCCs) from Santiago, Chile. PHCCs were randomly allocated to either nutritional intervention [intervention group (IG), n = 5] or routine care [control group (CG), n = 7]. A total of 4631 pregnant women were recruited (IG, n = 2565; and CG, n = 2066). Primary outcomes were adequate GWG and glycemic control in mothers and birth weight, birth length, macrosomia, and large for gestational age in neonates. The intervention consisted of 4 key actions: training of health care professionals on nutritional recommendations, counseling of pregnant women on diet and physical activity recommendations, offering a physical activity program implemented in the participating PHCCs, and adequate referral to dietitians. Women randomly assigned to the CG received routine antenatal care.

Results: At baseline, the mean age was 26.1 y; 45% of women were primipara and 24% were obese. No differences were found in the percentage of women achieving adequate GWG (IG: 30.3%, compared with CG: 31.3%; OR: 0.94; 95% CI: 0.81, 1.09), but women in the IG had lower GWG than those in the CG (11.3 compared with 11.9 kg; mean difference: -0.63 kg; 95% CI: -1.19, -0.08). Effects of the intervention were significantly higher in women with obesity at the beginning of pregnancy (mean

difference: -1.24 kg; 95% CI: -2.18, -0.30; P for interaction < 0.05). No differences were found between groups regarding maternal glycemetic control or neonatal outcomes.

Conclusions: Our findings demonstrate that a low-intensity, high-coverage intervention delivered through the Chilean public health care system under standard operating conditions reduces GWG and has the potential for successful scale-up. This trial was registered at clinicaltrials.gov as NCT01916603. Am J Clin Nutr 2020;112:991-1001.

## Palabras clave

**Palabras clave de autor:**[pregnancy](#); [obesity](#); [gestational weight gain](#); [birth weight](#); [clinical trial](#); [Chile](#)

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