



Dietary nutritional deficiencies identified in women at-risk of developing gestational diabetes across the UK, Ireland, Spain, Australia: The Bump2Baby and Me Study

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Early pregnancy provides a window of opportunity to optimise fetal health and reduce chronic disease risk through improved maternal nutrition. Gestational diabetes is the most common complication in pregnancy and screening early in pregnancy can identify women at-risk of developing it⁽¹⁾.

We aimed to explore the nutritional status of at-risk pregnant women early in pregnancy involved in the Bump2Baby and Me (B2B&Me) trial⁽²⁾ in four countries.

This is a cross-sectional analysis of a subset of the B2B&Me trial baseline population. Demographic information was collected including participant age, gestation, body mass index (BMI), education, and smoking status. Dietary intakes were assessed using the validated Food4Me food frequency questionnaire (FFQ), with participants being included in analyses if they had a full FFQ completed during pregnancy. Data were analysed across BMI categories using one-way ANOVA, Kruskal Wallis-H, and chi-square tests.

In 436 participants, 210 (48.2%), 124 (28.4%), and 102 (23.4%) were in the normal weight, overweight, and obesity categories. BMIs >30 were associated with an increased intake of energy ($p = 0.005$), carbohydrates ($p = 0.001$), sugar ($p = 0.001$), total fat ($p = 0.034$), saturated fat ($p = 0.013$), trans-fat ($p = 0.009$), and sodium ($p = 0.039$). BMIs >30 was also associated with lower age ($p = 0.001$), education levels ($p < 0.001$), and smoking ($p = 0.029$). 52.5%–99.5% of participants did not meet vitamin D, omega-3, zinc, iodine, iron, folate and dietary fibre requirements. 53.4%–97.2% exceeded carbohydrates, sugar, fats, and sodium recommendations.

Although this cohort is not representative of all pregnant women, it shows lower nutritional status in women at-risk of gestational diabetes. Further research is needed to explore the impact of these deficiencies on pregnancy outcomes.

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References

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