



## Exploring dietary quality in pregnant women at-risk of developing gestational diabetes across 4 countries (Ireland, Spain, England, and Australia): The Bump2Baby and Me Study

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Maternal nutrition is important during early pregnancy to support maternal changes during pregnancy and promoting fetal growth and development<sup>(1)</sup>. Some women are at higher risk for poor dietary quality during pregnancy.

We aimed to assess dietary quality across a cohort of women in early pregnancy at-risk of gestational diabetes mellitus (GDM) from Dublin, Bristol, Granada, and Melbourne.

Cross-sectional analysis was conducted on the baseline cohort of pregnant women (12–24 weeks gestation) participating in the Bump2Baby and Me randomised controlled trial<sup>(2)</sup>. Demographics including age, gestation, and body mass index (BMI) were collected. Dietary data from a validated 161-item food frequency questionnaire (FFQ) were analysed with only participants with a completed FFQ available included in the analysis. Sleep, depression, and physical activity questionnaires were also analysed. Pearson Chi-square, Kruskal Wallis H test and logistic regression with post-hoc Dunn's test and Bonferroni correction were used for the statistical analysis.

436 of 865 participants were included, their median age was 36 years (IQR = 4) and BMI was 25.24 m/Kg<sup>2</sup> (IQR = 6.53). Fruit and vegetable intakes were similar across all sites (56.4% of participants not meeting the recommended 5 servings/day). 53.7% did not meet fibre recommendations and median confectionery intake was 148.8g/day (IQR = 180). Over half of participants in each site did not meet saturated fat recommendations of <10% energy intake per day. Dublin had significantly higher saturated fat intakes (35.83g/day, IQR 16.6 IQR,  $p < 0.01$ ) than both Granada (26.64g/day, IQR 11.22) and Melbourne (28.92g/day, IQR 12.56) with 83% exceeding the recommended intake. Dublin (2382.69 mg/day, IQR 1088.57) and Bristol (2370.43mg/d, IQR 1013.28) had significantly higher sodium intakes ( $p < 0.01$ ) than Granada (1961.79 mg/day, IQR 884.75) and Melbourne (1674.34 mg/day, IQR 868.41).

Poor dietary quality was identified in women at-risk of GDM across sites. Saturated fat, sodium and confectionery intakes were high while many participants did not meet recommendations for fruit and vegetables or fibre. Interventions to improve dietary quality in pregnant women at-risk of GDM would be beneficial.

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### References

1. Lowensohn RI, Stadler DD & Naze C (2016) *Obstet Gynecol Surv* **71**(7), 413–26.
2. O'Reilly SL, Burden C, Campoy, C *et al.* (2021) *Trials* **22**, 963.