



Associations of dietetic intervention with maternal & neonatal outcomes in women with gestational diabetes

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Background

- Medical Nutrition Therapy (MNT), provided by an experienced dietitian is widely recognised as being an important component of gestational diabetes (GDM) care
- Yet, limited literature has specifically assessed the impact of dietetic intervention in women with GDM

Aim

To assess the associations of dietetic intervention and aspects of patient care with a range of maternal and neonatal outcomes in women diagnosed with GDM at the Royal Women's Hospital (RWH).



Method

Study Design

Retrospective cohort study

Participants

1233 adult women diagnosed with GDM in a singleton pregnancy, who delivered at RWH between 1 July 2015 – 31 May 2017.

Data Collection

Retrieved from medical records:

- *No. of dietetic consultations* per patient
- *Patient care information:*
 - Medical Nutrition Therapy (MNT) or added pharmacotherapy (insulin/metformin)
 - Specialist diabetes clinic care or routine antenatal care
- *Maternal outcomes:* delivery method & birth interventions (spontaneous/instrumental / caesarean delivery)
- *Neonatal outcomes:* stillbirth, preterm birth, infant size (LGA/SGA), neonatal hypoglycaemia, resp. distress, shoulder dystocia, admission to neonatal intensive care unit (NICU) / special care nursery (SCN)

Data Analysis

Adjusted linear and logistic regression was used to analyse associations.

Results

Characteristics of the study sample	Mean ± SD	Range
Maternal age (yrs)	32.5 ± 4.8	19.0 – 48.0
Early pregnancy BMI (kg/m ²) (n=1218)	26.9 ± 6.1	14.0 – 47.0
Gestational age at diagnosis (weeks)	26.1 ± 4.9	10.0 – 37.0
	n (%)	
Cultural background		
Australian & New Zealand	350 (28.4)	
Southern Asian (India, Pakistan, Bangladesh, Sri Lanka, Nepal)	336 (27.3)	
Therapy type		
Medical nutrition therapy (MNT) only	627 (50.9)	
MNT + pharmacotherapy (insulin or metformin)	606 (49.1)	
Antenatal model of care		
Routine antenatal care (obstetrician + diab educator + dietitian)	1007 (82.5)	
Specialist diabetes clinic (clinicians listed above + endocrinologist)	216 (17.5)	

Women with GDM who:

- ...received 1 or more dietetic consultations had a decreased likelihood of infant admission to the NICU / SCN, compared to women who received no dietetic intervention ([OR] 0.41, 95%CI 0.22-0.75; p=0.004)
- ...required pharmacotherapy had more dietetic consultations than women solely managed with MNT (β -coef (95%CI) = 0.28 (0.17-0.39)), (p<0.001)
- ...were managed in the specialist diabetes clinic had more dietetic consultations than women managed in routine antenatal care clinics (β -coef (95%CI) = 0.50 (0.36-0.63)), (p<0.001)

Significance for allied health & future research

- Dietetic intervention in GDM, as part of a comprehensive package of healthcare, is associated with fewer infant admissions to NICU/SCN
- Dietetic service delivery at RWH is currently weighted towards women who manage GDM with MNT + pharmacotherapy
- Further research should assess the impact of dietetic intervention, including aspects of service delivery, on optimising maternal and neonatal health in women with GDM