



Associations between maternal Energy-adjusted Dietary Inflammatory Index (E-DII™) and maternal cardiometabolic factors in pregnancy.

A Gainfort¹, A Delahunt¹, SL Killeen¹, SL O Reilly^{1,2}, FM McAuliffe¹

1. UCD Perinatal Research Centre, School of Medicine, National Maternity Hospital, University College Dublin, Ireland.

2. UCD School of Agriculture and Food Science, University College Dublin, Dublin, Ireland.

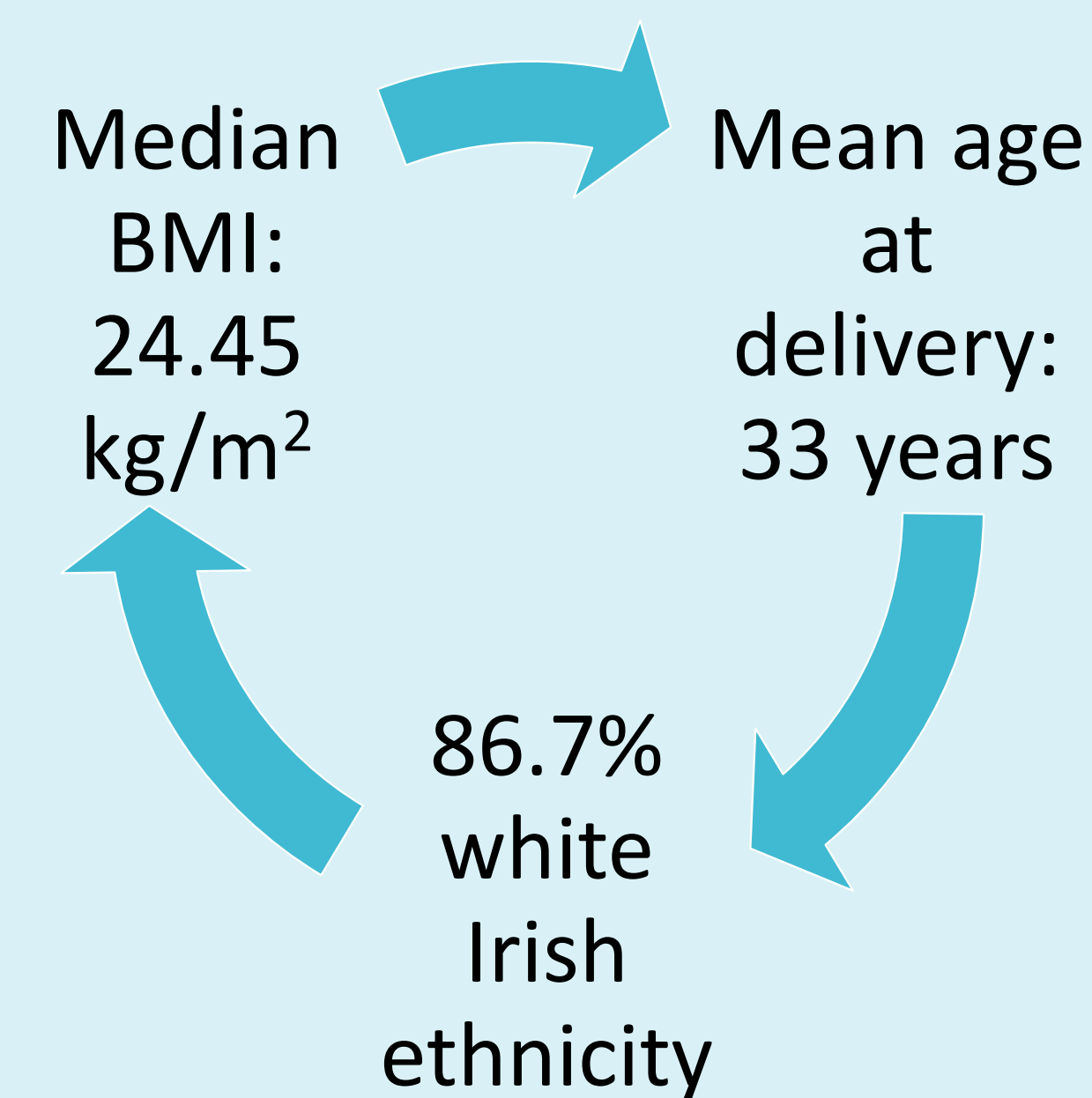


Introduction

- Excessive inflammation during pregnancy has been linked to adverse long term health outcomes, including maternal cardiometabolic ill-health ⁽¹⁾.
- Energy-adjusted Dietary Inflammatory Index (E-DII™) is a method of assessing the inflammatory potential of the diet ⁽²⁾.
- Diet is a potentially modifiable factor that could have a significant effect on maternal cardiometabolic health during pregnancy.

Objective

To investigate if maternal E-DII™ during pregnancy is associated with maternal cardiometabolic factors in early and late pregnancy.



Results

- Early maternal E-DII™ was positively associated with maternal BMI, and early cardiometabolic markers including total cholesterol, low-density lipoproteins (LDL) and diastolic BP and late cardiometabolic markers including total cholesterol and LDL (Table 1).
- Late pregnancy E-DII™ was associated with late diastolic BP, late HOMA1-IR and late glucose (Table 2).
- No associations were observed between late E-DII™ and late lipid profiles, even when adjusted for change in lipid level throughout pregnancy.

Table 1: Associations between early Energy-adjusted Dietary Inflammatory Index (E-DII™) and early and late maternal cardiometabolic factors.

	B	95% CI		P-value
		Lower	Upper	
Maternal BMI (kg/m ²) Log ¹⁰	0.007	0.003	0.011	0.001
Early total cholesterol (mmol/l) *	0.155	0.061	0.249	0.001
Late total cholesterol (mmol/l) *	0.127	0.012	0.243	0.012
Early LDL (mmol/l) *	0.126	0.046	0.206	0.002
Late LDL (mmol/l) *	0.110	0.010	0.209	0.031
Early diastolic BP (mmHg)	0.538	0.070	1.006	0.024

Multiple linear regression: Models adjusted for maternal age at delivery, maternal smoking; original RCT allocation group; maternal education, maternal ethnicity, *LDL and total cholesterol adjusted for timepoint blood analyzed at.

Non-normally distributed data were log¹⁰ transformed prior to analysis

95% Confidence Interval; Statistically significant p<0.05

Table 2: Associations between late Energy-adjusted Dietary Inflammatory Index (E-DII™) and late maternal cardiometabolic factors

	B	95% CI		P-value
		Lower	Upper	
Late glucose (mmol/l) Log ¹⁰	0.003	0.000	0.006	0.034
Late HOMA1-IR Log ¹⁰	0.030	0.005	0.054	0.018
Late diastolic BP (mmHg)	0.624	0.103	1.145	0.019

Multiple linear regression; Models adjusted for maternal age at delivery, maternal smoking; RCT group; maternal education, ethnicity.

Non-normally distributed data were log10 transformed prior to analysis

Abbreviations: CI; 95% Confidence Interval; Statistically significant p<0.05

Conclusion

- Our findings suggest that diets high in pro-inflammatory foods and nutrients during pregnancy were associated with some cardiometabolic risk factors.
- These findings highlight the potential benefits of consuming diets with overall lower inflammatory potential during pregnancy to improve maternal cardiovascular health.

Methods

This is secondary analysis of 518 women from the ROLO (Randomised cOntrol trial of LOw glycaemic index diet in pregnancy) study ⁽³⁾.

Maternal E-DII™ were calculated for early (12-14 weeks) and late (34 weeks) pregnancy using data from 3-day food diaries.

Maternal characteristics and BMI were recorded at women's first antenatal appointment.

Blood pressure and blood samples were obtained in early pregnancy (12-14 weeks) and late pregnancy (34 weeks)

References:

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