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Background: Dietary advice in pregnancy is a key strategy promoted to prevent and manage gestational diabetes mellitus (GDM). However the evidence to support various healthful dietary patterns to achieve optimal glycemic control in pregnant women has not been adequately synthesized.
Objective: To conduct a systematic review and network meta-analysis of randomized trials of ≥4 week duration in order to compare the relative efficacy of healthful dietary patterns on measures of glycemic control (fasting blood glucose [FBG] and insulin [FBI], glycated hemoglobin [HbA1c], Homeostatic Model Assessment- Insulin Resistance [HOMA-IR]) in pregnant women.
Methods: MEDLINE, EMBASE, and COCHRANE (to July 2014) were used to identify randomized trials of dietary patterns for glycemic control during pregnancy. Two independent reviewers extracted relevant study characteristics and data. A network meta-analysis using a Bayesian framework and random-effects model was conducted to estimate the effectiveness of dietary patterns on FBG. Owing to a lack of trials that met the inclusion criteria, we conducted pair-wise meta-analyses using fixed-effects model with generic inverse variance weighting for FBI and HOMA-IR. There were insufficient trials to conduct a meta-analysis for HbA1c.
Results: Twelve studies with a median follow-up duration of 13 weeks met our inclusion criteria (n= 1869). There were no significant differences for any of the dietary comparisons (routine care, energy-restricted, high-fibre, low glycemic index, Dietary Approach to Stop Hypertension [DASH] diets) on FBG. Pair-wise meta-analyses between high-fibre and low glycemic index diets also did not show significant differences on FBI and HOMA-IR.
Limitation: <5 trials were identified for comparisons between diets.
Conclusions: The preliminary results from these analyses demonstrated that there are no significant differences between diets on FBG, FBI, and HOMA-IR. Larger trials of higher quality are needed to confirm these results.

Short Oral Abstract 11 - Cross-Sectional Associations of Plasma Fatty Acid Composition with Plasma Concentration of Leptin in Finnish Children (Taisa M Venäläinen, Finland)

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Objective: We investigated the associations of proportions of fatty acids in plasma cholesteryl esters (CE), phospholipids (PL) and triacylglycerols (TG) with plasma concentration of leptin among Finnish children.
Methods: The subjects were a population sample of 376 children aged 6-8 years examined at baseline in the Physical Activity and Nutrition in Children (PANIC) study. Plasma fatty acid composition was measured by gas chromatography and plasma concentration of leptin by radioimmunoassay. Data were analyzed using linear regression models.
Results: Higher proportions of myristic acid and lower proportions of cis-vaccenic acid in plasma CE, PL and TG were associated with higher plasma concentration of leptin. In CE, higher proportion of gamma-linolenic acid and lower proportion of arachidonic acid were associated with higher leptin concentration. In PL, higher proportion of linoleic acid and lower proportions of nervonic and arachidonic acids were associated with higher leptin concentration. In TG, higher proportions of palmitic, stearic and gamma-linolenic acids and lower proportions of linoleic, oleic, cis-vaccenic and docosapentaenoic acids were related to higher leptin concentration.