38. Relationship between early pregnancy nutrition and abdominal subcutaneous fat

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Introduction: Objective clinical measures of metabolic health during pregnancy would be desirable. As recent work suggests dietary macronutrient balance is important in regulating energy intake and metabolic health the aim of this study was to assess the associations between dietary macronutrient composition and US measures of SAT layers.

Method: 200 women recruited at 11–14 weeks gestation completed a food frequency questionnaire and measurements were performed on abdominal SAT, dividing it into the two anatomical layers superficial SAT (SSAT) and deep SAT (DSAT), assessing SAT density with US strain elastography. Plausible diets of 185 women were used. Generalised additive models using thin plate regression splines were used to associate intake of dietary protein, carbohydrate and fat (kJ/day) with these measures of SAT.

Result: Dietary intake did not differ between the body mass index (BMI) categories, except when macronutrients intakes were adjusted for weight. In early pregnancy, there was an association between a high protein, low fat intake diet with increased SSAT thickness. There was no significant association of macronutrient intake with DSAT. When assessing the relationship of SAT density with macronutrient intake there was an association between decreased density of SSAT with low fat intake. There was no association of macronutrients and SAT density in the DSAT.

Conclusion: Although it is difficult to make assumptions from human studies using dietary recollection and considering a lifetime of dietary pattern has contributed to the current body AT, macronutrient balance may have a prominent place in metabolic health, deposition and density of AT and long-term AT distribution. Prospective studies are warranted to investigate whether SAT measures meaningfully reflect macronutrient composition and metabolic health in pregnancy.

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40. Elastography: A novel evaluation of abdominal subcutaneous fat in pregnancy

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Introduction: Chronic inflammation leads to adipose tissue (AT) fibrosis through excessive accumulation of extracellular matrix proteins. An increasing degree of fibrosis in AT is associated with increasing body mass index (BMI) and insulin resistance. Anecdotally AT has been observed to vary with ease of ultrasound penetration on medical examinations. Ultrasound strain elastography (SE) is a useful tool in assessing fibrosis in liver disease but has not previously been used to assess AT fibrosis. This study assesses the variance in density of the two anatomical layers of subcutaneous AT, superficial subcutaneous adipose tissue (SSAT) and deep subcutaneous adipose tissue (DSAT) in pregnancy using SE.

Method: Women (n = 210) recruited in early pregnancy. Density of SSAT and DSAT were assessed using SE at five-time points

throughout pregnancy and post-partum. Semi-quantitative density measures were achieved using two methods, strain values (SV) of the two layers calculated by the ultrasound machine and ImageJ software to calculate the percentage colour pixels in the elastography image these were correlated with the SSAT/DSAT thickness and BMI.

Results: Adipose tissue demonstrated a difference in density with the SSAT layer being denser than DSAT. Correlation of tissue density measures with BMI was poor. There was slight change of AT density during pregnancy with a tendency towards harder SSAT and softer DSAT in the third trimester. Post-partum SSAT became softer associated with an increase in SSAT thickness.

Conclusion: Elastography demonstrated density differences in adipose tissue. SE is a new method of assessing the AT demonstrating density differences in adipose tissue. Information on AT density in future work may determine AT fibrosis and be valuable for metabolic disease risk.

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41. Views and preferences of medical professionals and pregnant women about a novel primary prevention intervention for hypertensive disorders of pregnancy: A qualitative research

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Objective: To explore the acceptability, views and preferences of pregnant women and primary healthcare providers for a fixed-dose combined preparation of aspirin and calcium (*the polypill*) as primary prevention of hypertensive disorders in pregnancy in an unselected pregnant population.

Method: A qualitative study was conducted, consisting of seven focus group discussions with 25 women with low-risk pregnancies and eight in-depth semi-structured interviews with primary care midwives and general practitioners of varying primary care practices in the Netherlands. Topics discussed were: perceptions of preeclampsia; information provision about preeclampsia and the polypill within antenatal care; views on the polypill concept; and preferences and needs regarding implementation of the polypill. MAXQDA computer software was used to carry out thematic analysis of the data transcripts to identify emerging themes.

Results: Two major themes shaped medical professionals' and women's views on the polypill: 'Informed Choice' and 'Medicalization'. Both could be divided into subthemes related to information provision, personal choice and discussions with regard to the balance between 'unnecessary medicalization' and 'scientific progress'.

Discussion: In general, women and healthcare practitioners expressed a positive attitude towards the polypill intervention as primary prevention strategy with aspirin and calcium, providing some conditions are met. The most important conditions for implementation of such a strategy were safety, effectiveness and the possibility to make a well-informed autonomous decision.

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