Methods 34 fatty acids from adipose tissue biopsies were determined in a random sample of 1100 men and women from the Diet, Cancer and Health study. PCA and TT were conducted on the fatty acid data correlation matrix. The stability of the analyses was evaluated, and the highest variance factors were extracted and descriptively compared.
Results TT factors consisted of distinct groupings of 3–8 fatty acids, generally characterised by hydrocarbon chain length and saturation status. PCA factors consisted of complex weightings of all 34 fatty acids, where some fatty acid groupings loaded strongly on some factors.
Conclusions Fatty acid patterns determined using TT are considerably simpler to interpret than those generated by PCA, an advantage in studies of the effects of complex multi-dimensional exposures. Future work will relate these patterns to risk of disease.

P1-18 STUDYING EARLY PREGNANCY DURING INFERTILITY TREATMENT MAY IDENTIFY NOVEL RISK FACTORS FOR CONGENITAL MALFORMATIONS

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Introduction The study of early pregnancy risk is generally very difficult, but potentially feasible in women during clinical infertility treatment with gamete and embryo data, known gestation, routine ultrasound in early pregnancy, and detailed recording of birth outcomes.
Methods All treatment cycles of assisted reproductive technology (ART) for the period January 1986 to December 2002 in South Australia were linked to both the routine State perinatal collection and the registries for birth defects and cerebral palsy (coded to ICD-9 BPA). Fetal loss was assessed by comparing routine 6 week ultrasound data and babies delivered. ORs for birth defects were calculated for deliveries with an empty fetal sac at 6 weeks, or subsequent fetal loss and a baby delivered, compared to singleton pregnancies without loss.
Results The prevalence of congenital malformations was 14.6% in pregnancies in which there had been an empty sac at a 6 week ultrasound. The presence of an empty sac was associated with both an increased risk of any malformation (OR=1.93, CI 1.10 to 3.39) and with multiple malformations (OR=2.78, CI 1.27 to 6.03). Multiple pregnancy without fetal loss was not associated with an overall increased prevalence of malformation (OR=1.01, CI 0.81 to 1.25).
Conclusions The presence of an empty fetal sac at 6 weeks gestation constitutes a significant risk factors for congenital malformations in the surviving baby. Subsequent work identifying upstream factors influencing embryo development and loss have significant potential for advancing our understanding of the aetiology of congenital malformations, particularly after infertility treatment.

P1-19 THE DEVELOPMENT OF ETHNIC-SPECIFIC FOOD FREQUENCY QUESTIONNAIRES (FFQS) TO MEASURE DIET OF NON-WESTERN MIGRANTS IN THE NETHERLANDS

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Introduction Diet is an important modifiable risk factor for cardiovascular disease and appears relevant in migrant groups in Western Europe, including the Netherlands. However, no comprehensive picture of the dietary patterns of the main non-western migrants in the Netherlands exists. Research is limited by a lack of validated instruments to measure habitual diet. In this study we aimed to develop ethnic-specific FFQs in order to study the dietary patterns of Surinamese of African and of South Asian origin, Turkish and Moroccan individuals residing in Amsterdam, the Netherlands.
Methods Food items were selected according to their percentage contribution to the nutrients of interest based on data from 24 h recalls. Tests of face-validity and cognitive interviews were performed to pinpoint problems in design and comprehension of the FFQs. A nutrient database was constructed based on data in the Dutch Food Composition Table.
Results Three FFQs including 180–200 food items have been developed to reflect usual intakes of Turkish, Moroccan and Surinamese migrants. Overall the FFQs cover more than 94% of the intake of the nutrients at interest in this study.
Conclusion With the development of the ethnic-specific FFQs, this study provides an opportunity to move the field of nutritional and health epidemiology forward. The FFQs will be applied to participants in the HELIUS study, a multi-ethnic cohort in Amsterdam, and will enable us to gather dietary intake data of 1000 participants (18–70 year old) per ethnic group. This will allow research into the main determinants and health consequences of habitual diet.

P1-20 EARLY SCREENING FOR CORONARY ARTERY DISEASE IS NEEDED IN SOUTH ASIAN INDIAN IMMIGRANTS WITH TYPE 2 DIABETES

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Background South Asian Immigrants (SAIs) are the second fastest growing Asian immigrant population in the USA, and at a higher risk of type 2 diabetes (diabetes) than the general USA population. Coronary Artery Disease (CAD) is the principal cause of mortality globally, particularly in diabetic subjects. In this study, we sought to determine the; (1) Distribution of risk factors for CAD in diabetic and non-diabetic SAIs; and (2) Presence of sub-clinical CAD in diabetic and non diabetic SAIs in the USA.
Methods 213 first generation SAIs subjects were recruited and broadly divided into two subgroups; 35 diabetics and 178 non diabetics. Their risk factors for CAD were compared. For sub-clinical CAD assessment, Common Carotid Artery Intima-Media Thickness (CCA-IMT) was used as a surrogate marker for atherosclerosis. For CAD diagnosis, Exercise Tolerance stress Test (ETT) was performed.
Results Both diabetics and non diabetics SAIs in general, share a very heavy burden of CAD risk factors. Hypertension ($p=0.003$), high cholesterol ($p<0.0001$) and family history of diabetes ($p<0.0001$) was significantly associated with diabetes. Presence of sub-clinical CAD was also higher in diabetics as compared to non diabetics (63% vs 52%). 45% of diabetics (who were not previously diagnosed with CAD) were found to be ETT positive for CAD ($p<0.0001$).
Conclusion CAD risk factors and sub-clinical CAD are more prevalent among diabetic SAIs. Early screening and aggressive treatment for risk factor reduction in SAIs is the key to combating the increasing incidence of CAD. Larger prospective trials are required to confirm these study findings.