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 multidimensional exposures. Future work will relate these patterns to risk of disease.

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 of 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.