Introduction: Dietary pattern analysis method can provide more information about the nutritional etiology obesity. This study aims to determine the association of major dietary patterns with anthropometric indices in men and women from two Azeri and Kurd ethnicity living in Urmia, West Azerbaijan, Iran.

Methods: In this cross-sectional study, 723 participants (427 women and 296 men) aged 20–64 years, from two ethnic groups (445 Azeri and 278 Kurd) were selected through a multi-stage cluster systematic sampling. Dietary information was collected by a valid semi-quantitative F.F.Q. Weight, height, and waist circumference were measured. Dietary patterns (DPs) were determined using principal component analysis. Data was analyzed by linear regression analysis.

Results: Obesity was considerably higher in Azeris (33.7% vs. 25.9%). Three major DPs were extracted including “Traditional High SES (THS)” (high in fruit and vegetables, dairy products, olives, nuts, herbal infusions, traditional Pancake, dolma, thick soup and pickles); “Transitional” (high in fast foods, red and visceral meat, kebab, salty snacks, sauces, sweetened drinks, sweets, poultry, fish, seeds, and coffee); and “Traditional Low SES (TLS)” (high in tea, refined grains, potatoes, whole grains, vegetable & hydrogenated oils, and animal fat, traditional stew, salt, eggs, and legumes). THS was highly consumed in Azeris; in contrast, TLS was highly consumed in Kurds. There were not any significant differences between two groups in consumption of Transitional DP. After adjusting for confounders (age, socioeconomic status, energy intake, and physical activity) the associations between DPs and anthropometric factors were not significant.

Conclusion: Findings revealed in both ethnicities, the associations are highly affected by social, environmental, and lifestyle determinants.