【S2-4】

Health risks associated with dietary patterns of Korean Americans[3]

Eunju Yang
Professor of Culinary Science, Honam University

<u>Background</u> Many studies of immigrants have reported that advanced level of acculturation to Western living leads to changes in dietary patterns that are associated with higher prevalence of coronary heart disease, cancers, and diabetes. Dietary behaviors of immigrants have been related to acculturation status such as current age, years in the U.S., total years of education, percentage of lifetime in the U.S., and age entering the U.S.

<u>Objectives</u> In this study we aimed 1) to test a method for defining dietary patterns using dietary intake data of KAs and 2) to examine the relationship of dietary patterns to sociodemographic characteristics

<u>Approach</u> A cross-sectional study was conducted with KAs residing in Michigan using a mail survey in 2000. Korean Americans listed in Michigan Korean Americans' telephone directory (n=2,625) were asked to participate in the study. The subjects included in the final data analyses were 498 (263 men, 235 women), aged 30-87 years old. The questionnaire included demographics (age, gender, education, occupation, and length of residence in the U.S.) and a 93-item food frequency form. Ninety-three food items in the KFFQ were collapsed into 49 food groups based on the nutrient profiles of each food item. Factor analysis (principal component) was used to derive food patterns based on the 49 food groups from the KFFQ. Since the distribution of FFQ data was non-normal, data values were log-transformed where non-normal to more closely approximate a normal distribution. The analysis was conducted using the FACTOR PROCEDURE in SAS. The factors were rotated by an orthogonal transformation using the Varimax rotation function in SAS to achieve a structure with independent (no overlapping) factors and greater potential for interpretability.

Using eigenvalues over 1.25 as the criteria for retaining factors resulted in 10 factors for both men and women, respectively. With the additional examination of the Scree plot and the interpretability of the factors, three factors for both men and women were considered as major dietary patterns of KAs and were labeled on the basis of our interpretation of the data, which then were used in further analyses. Linear regression analyses were conducted to test the effects of sociodemographic variables (length of residence in the U.S., age, and education level)

on dietary patterns of KAs. A separate analysis was conducted for each dietary pattern,

Findings   Mean age and length of residence in the U.S. were 52 ± 11 y and 21 ± 10 y, respectively and only slightly different for men vs. women: 54 ± 11 y and 22 ± 10 y for men, respectively, and 49 ± 11 y and 21 ± 10 y for women, respectively. Major dietary patterns of KAs were labeled "vegetable/fruit," and "traditional Korean" in both men and women and "acculturated American" in men and "traditional American" in women. The "traditional Korean" dietary pattern was negatively associated with length of residence in the U.S. for both men and women (p<0.01). The other major dietary patterns were not associated with other sociodemographic variables examined in men, however, the "vegetable/fruit" dietary pattern was positively associated with length of residence in the U.S. (p<0.05) and education level (p<0.05) in women. Dietary pattern analysis can be used to understand dietary behaviors regarding health risks of ethnically different immigrants including KAs. This type of research will provide important clues to identifying relationships between the changes in dietary patterns and health risks of immigrants who may change their lifestyle after immigration.

Limitations   Dietary patterns of KAs or Asian immigrants appear to be influenced by meal type. The relation of the Western-type dietary patterns ("traditional American" or "acculturated American") to meal and snack type variables along with sociodemographic and lifestyle characteristics should be determined in further research. The use of factor analysis to define dietary patterns has been criticized for its subjective nature, including the consolidation of food items into food groups, the number of factors to extract, the methods of rotation, and the labeling of the components, and there is concern that results cannot be replicated across populations or even within the same population. Three major dietary patterns in our results accounted for 29.5% of the total variance for men and 27.4% of the total variance for women. Thus, additional analyses on the minor dietary patterns may demonstrate additional associations between dietary patterns and sociodemographic characteristics.