EFFECT OF AGE-RELATED CHANGES IN TASTE PERCEPTION ON DIETARY INTAKE IN THE KOREAN ELDERLY.

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This study was performed to investigate the change in the taste perception during aging and its effects on dietary intake in Korean elderly. The subjects were 104 females aged 65 through 90, and 88 college women were included as comparison group.

Taste perception was assessed by sensory evaluation. Sucrose(or salt) solutions for establishing thresholds were mixed with sucrose(or salt) and distilled water. There were seven concentrations for sucrose(0, 0.2, 0.4, 0.6, 0.8, 1.0, 1.2%) or for salt(0, 0.02, 0.03, 0.06, 0.09, 0.12, 0.15%). Four suprathreshold sucrose(5, 8, 11, 14% concentration) or salt(0.20, 0.35, 0.50, 0.75% concentration) solutions for establishing the just right concentrations(JRC) were mixed with sucrose or salt and orange-pineapple flavored juice or beef stock. And the preference for sweet and salt taste in the dietary habits of the elderly was asked. Dietary intake was measured by 3-day diet record.

The elderly showed higher taste threshold than young subjects for both sweet (1.4 times) and salty tastes (2 times). The JRC of sucrose in orange-pineapple flavored juice were 12.7% and 9.2% for the elderly and young subjects, respectively. For salt in beef stock, the JRC were 0.52% and 0.36% for the old and young subjects. Mean intakes of energy, protein, vitamin A, thiamin, riboflavin, niacin, calcium and iron of the elderly were below the Korean Recommended Dietary Allowances. The elderly in upper quartile for sweet and salty tastes threshold consumed less calories. The older subjects who has a higher JRC for sweet taste of the orange-pineapple juice consumed less calories and meals with lower protein calorie. The elderly with a higher JRC for salty taste of beef stock showed higher proportions of carbohydrates energy. But there was no difference in the taste threshold or JRC according to the dietary habits for the sweet or salt tastes of the elderly. Pearson correlation coefficients between JRCs for sweet and salty taste was 0.54($P<0.01$). The correlation coefficients between taste threshold and nutrient intakes were very low for both age groups. In the elderly, the JRC of sweet taste of the orange-pineapple juice were negatively correlated with intakes of energy, protein, fats, thiamin, riboflavin, niacin, vitamin C, iron, and consumption of food groups of meats, eggs ($P<0.01$). No significant association was noted among taste perception and dietary intake in young subjects.

Age-related alterations in sweet and salt taste perception were observed. The elderly with a higher JRC of sweet and salt tastes may be at higher dietary risk for the ones with a lower JRC. Dietary habits for the sweet and salt taste of the elderly was far from their 'real' taste preference.