Dietary pattern and oral cancer risk - a factor analysis study

Objectives: The role of diet in cancer risk has mainly been investigated based on intake of individual food items. However, food consumption is made up of a combination of various food items. This study aims to determine the association of dietary patterns with oral cancer risk.

Methods: A total of 306 matched cases and controls were recruited in this study. Data on dietary intake were obtained using a food frequency questionnaire (FFQ). Factor analysis (FA) was performed to identify dietary patterns based on the intake of nine major food groups, resulting in four factors/components being retained. The odds ratio (OR) was computed for each component using conditional logistic regression.

Results: The first pattern labelled as modern was loaded with processed foods and snacks, whereas the second pattern termed as prudent was characterized by intake of fruits and vegetables. The third pattern labelled as traditional consisted of beverages and starches, while the fourth pattern termed as combination was loaded with intakes of dairy, fermented/salted and meat/by-products. A significant reduced risk was found for prudent (OR 0.53, 95% CI = 0.28-0.98), whereas an increased risk was found for both combination (OR 2.43, 95% CI = 1.33-4.45) and traditional (OR 2.32, 95% CI = 1.23-4.25) patterns. However, after adjusting for risk habits of tobacco smoking, alcohol consumption and betel quid chewing, only combination (aOR 2.99, 95% CI = 1.555-75) and traditional (aOR 2.08, 95% CI = 1.093-97) patterns remained significant.

Conclusion: Consumption in the highest tertile of traditional and combination patterns may induce twice and thrice the risk of oral cancer, respectively.