

Dietary Patterns and Mild Cognitive Impairment among Community-living Elderly in Singapore

Abstract

The objective of this project was to examine the association between adherence to the Mediterranean Diet (MeDi), adapted to fit local context, and mild cognitive impairment (MCI) in a sample of community-living seniors in Singapore.

Data used in this project were provided by a cross-sectional Diet and Health Study based in Singapore. A total of 411 elderly Singapore residents, aged 60 and above, had their MCI symptoms and diet measured. Adherence to the MeDi was assessed by a 10-point Mediterranean-diet scale (range from 0 to 9 with higher scores indicating greater adherence) and was used as the main predictor of MCI. Logistic regression was employed to model the relationship between adherence to the MeDi pattern and MCI status. The model was adjusted for demographic attributes such as age, education, total energy intake and body mass index (calculated as weight in kilograms divided by height in meters squared). We also investigated the relationship between MeDi and MCI when vascular variables (high blood pressure and diabetes) were simultaneously introduced into the model. Proposed logistic regression models were repeated for MeDi score in tertiles as categorical variable. Assessments of fit of the models were done via tests such as likelihood ratio test and Hosmer-Lemeshow goodness-of-fit test.

A strict adherence to the $\alpha = 0.05$ significance level would render the results from the present project being inconclusive. However, a possible association between moderate to high MeDi adherence and reduced risk for MCI might be suggested since compared to subjects in the lowest MeDi adherence tertile, subjects in the middle tertile has 39.8% (OR=0.602, CI=(0.296,1.218), p=0.1600) less risk of developing MCI, while those at the highest MeDi adherence tertile has 45.1% (OR=0.549, CI=(0.169,1.505), p=0.2724) less risk of developing MCI. Yet the statistical significance of the potential association remains to be explored and confirmed in future studies.

In spite of the inconclusiveness of the current study, this report still provides a statistically sound framework, which can be applied or referred to, if similar studies investigating the association between exposure and outcome of interest are to be implemented in the future.