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Australian healthy eating index is associated with homocysteine, vitamin B12 and folate biomarkers

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Australian Healthy Eating Index is associated with homocysteine, Vitamin B12 and folate biomarkers

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Purpose

Assessing diet quality using the Australian Healthy Eating Index (AusHEI) can provide insights into overall dietary behaviours. This study aimed to examine associations between the AusHEI and a range of nutritional biomarkers among older Australians

Methods

In a cohort of older Australians (50+ years), who participated in the Blue Mountains Eye Study (BMES) in 1997-2000, 2608 people completed a food frequency questionnaire (FFQ) and provided fasting blood samples. Data from the FFQ was used to calculate diet quality scores, measured by the AusHEI with higher scores indicating a closer adherence to dietary guidelines. Mean levels of serum folate, Vitamin B12, homocysteine, total cholesterol, HDL cholesterol and triglycerides were compared across quintiles AusHEI scores

Results

Preliminary results showed significant trend for improved levels of serum folate, Vitamin B12, homocysteine, total cholesterol and HDL cholesterol with increasing quintiles of diet quality (p for trend <0.05). Mean levels of biomarkers in the highest quintile of diet quality were compared to those in the lowest quintile with significant differences ($p<0.05$) for folate (19.5nmol/L vs 17.1 nmol/L), Vitamin B12 (295pmol/L vs 261pmol/L), homocysteine (11.2µmol/L vs 13.32µmol/L), and total cholesterol (5.9mg/dL vs 5.7mg/dL). No significant mean differences were found between the highest and lowest quintiles of AusHEI for HDL cholesterol and triglycerides

Conclusion

There was a significant association between nutrition biomarkers (folate, Vitamin B12, homocysteine and cholesterol) and AusHEI score. These biomarkers may be used to provide an objective measure of diet quality and has implications for future research