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## Adherence to healthy dietary scores and risk of dementia: findings from the UK Biobank prospective study

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While adherence to a healthy diet is known to reduce dementia risk, the impact varies by diet type. This study examines the association between six dietary scores and dementia incidence.

In this prospective analysis, 210,269 participants aged 60 and above (mean age 64.1 years, 52.7% women) from the UK Biobank were included. Dietary adherence was assessed using six scores: Mediterranean Diet Adherence Index (MEDAS-14), Recommended Food Score (RFS), Healthy Diet Indicator (HDI), Mediterranean Diet Score (MDS), Mediterranean-DASH Intervention for Neurodegenerative Delay (MIND), and a meat consumption index (MCI). Dementia incidence (all-cause, Alzheimer's, vascular, and non-vascular) was the primary outcome, analyzed using Cox proportional hazards models. The lowest quintile (low adherence) was used as reference group. Analyses were conducted using a 2-years landmark and adjusted for sociodemographic (age, sex, ethnicity and deprivation), lifestyle (physical activity, alcohol and smoking) and health-related factors (multimorbidity and BMI).

Among the participants, 4,151 developed dementia during the 8.9 years follow up. Those with the highest adherence to dietary patterns (Quintile 5) showed a reduced risk of all-cause dementia: 49% with MDS (HR: 0.51, CI: 0.42–0.62), 38% with MIND (HR: 0.77, CI: 0.60–0.99), and 19% with MEDAS-14 (HR: 0.81, CI: 0.64–1.00). No significant associations were found with HDI. Individuals reporting low meat consumption (<5 times a week) exhibited a 15% lower dementia risk compared to high meat eaters (≥5 times a week, HR: 0.85, CI: 0.77–0.94). No associations were observed with pescatarian or vegetarian diets. These patterns were consistent across both vascular dementia and Alzheimer's disease.

Our findings suggest that higher adherence to certain healthy dietary patterns, particularly the Mediterranean and MIND diets, is associated with substantially lower risk of dementia. These findings emphasise the potential for achieving better brain health among older people by improving overall dietary pattern.