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Nutritional status of older adults with and without dementia

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According to the Alzheimer's Research Trust 820,000 people are currently living with dementia in the UK with numbers rising in line with the ageing population and a new case estimated to occur every 3.2 minutes⁽¹⁾. Effective management and prevention is paramount to reduce the considerable health care and social burden of dementia. Whilst multifactorial in aetiology, diet and lifestyle factors have been identified as potentially protective and pathogenic for dementia development⁽²⁾. This study reports on the baseline intakes of a group of older adults with dementia in comparison with healthy controls in order to inform the development of future dietary intervention studies and service delivery to delay the onset and slow the progression of cognitive decline.

Ethical approval was granted from the National Research Ethics Service Committee London (Camberwell St Giles). Participants with a diagnosis of dementia were recruited from Memory Clinics across Sussex, with consent obtained from both the participant and their designated carer. Routine clinical data was extracted from the patient notes and any additional data collected during a 2 hr initial interview. Healthy controls were recruited from community groups in the Brighton area. Anthropometric measurements were made according to standard age-appropriate procedures and dietary intakes were assessed using an adapted version of the EPIC Food Frequency Questionnaire (FFQ)^(3,4). FFQ's were coded and converted into nutritional information using the FETA software (Mulligan *et al.* unpublished).

Ninety-six cases and 53 controls currently have FFQ data available for analysis. Cases were more likely to be older (mean age 80.7 [6.2] and 68.1[6.0] years) and female (58% and 28% respectively) ($p \leq 0.001$) and of a higher BMI (26.4[3.8] and 25.0[3.2]kg/m²) ($p = 0.02$) than controls. To partially correct for these differences nutrient intakes were expressed as a percentage of the age- and gender-appropriate dietary reference values. Cases consumed significantly more energy in the form of saturated fat (13.8[2.6] and 12.2[3.2]% of energy) and significantly less as polyunsaturated fat (5.6[1.6] and 6.6[1.5]%) and alcohol (2.0[3.2] and 3.8[4.3]%) ($p \leq 0.001$). The differences in fat remained significant even when only healthy weight individuals were analysed ($p < 0.05$). No significant differences in relative micronutrient intakes were observed. Food-based analyses suggested that adults with dementia were less likely to consume fruit and nuts and seeds ($p \leq 0.007$) and more likely to consume sugars and snacks ($p < 0.001$) than controls. These differences remained significant, with the exception of fruit, when analysed within healthy weight adults only ($p \leq 0.005$).

The cross-sectional nature of this data limits the ability to draw conclusions regarding causality however it would appear that the current diet of older adults with dementia may fail to meet healthy eating recommendations, particularly with regard to the balance of fats. The cognitive benefits of a Mediterranean diet have been widely reported⁽⁵⁾ and the food-based analyses would seem to support this theory with potentially beneficial foods like fruits, nuts and alcohol underconsumed in a sample of adults with diagnosed cognitive impairment.

This data would suggest that older adults with cognitive impairment have sub-optimal dietary intakes not solely explained by their greater age or BMI. Ongoing follow up of this cohort will confirm the impact of this on disease progression.

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