

Nutrition and dietetics, delivered as part of a multidisciplinary approach, is clinically and cost effective in the management of dementia and AD.



Dietitians identify, prevent and treat the nutritional problems known to increase the risk of developing dementia, and those which can adversely affect the health and quality of life for people with dementia.

Key Fact

People with Dementia are more likely to be malnourished than those who are cognitively intact¹¹. The overall cost of malnutrition in the UK is £13.8 billion/year, 10% of health and social care budget¹². The annual cost of dementia to the UK a year is £26 billion¹³.

Dementias including Alzheimer's disease (AD), are thought to develop years before the clinical onset of symptoms¹. Age is the greatest risk factor for developing dementia, and with an ageing population and no new medical interventions, incidence of dementia will increase². The National Audit Office found that in Health and Social Care, service delivery for dementia patients was poor, leading to worse patient outcomes and the premature admission of patients to residential care facilities³.

Prevention

Certain cardiovascular risk factors could increase the incidence of AD⁴ and may impair cognitive function

in older age. These include obesity^{5,6}, hypertension, raised cholesterol level⁷, raised homocysteine⁸ and diabetes⁹. Epidemiological and longitudinal studies¹⁰⁻¹⁵ have consistently indicated the protective effects of a Mediterranean style eating pattern on incidence of AD and dementia¹⁰⁻¹⁵. Recently the FINGER study¹⁶ released findings showing how multimodal interventions including diet and exercise, in an at risk elderly cohort from the general population could significantly reduce their risk profile and possible future of dementia. Dietitians play a key role in prevention through public health messaging and in working with individuals with such risk profiles by improving the quality of their diets and encouraging exercise.

An International Panel of AD experts presenting at the International Conference on Nutrition and the Brain in 2013, released Dietary Guidelines based on the best available evidence¹⁷ demonstrating the growing acknowledgement of the importance of nutrition in this disease area. Dietitians will likely continue to play a pivotal role in prevention and dietary management now and in future.

Functional deficiencies and emerging evidence

Emerging evidence suggests that those high risk populations and AD patients may be particularly vulnerable to functional nutritional deficiencies^{18, 19} which may, in some subgroups, worsen cognitive status in the early or prodromal stages of disease²⁰. People with mild cognitive impairment²¹ or mild AD²² can have low circulating levels of antioxidant nutrients and B vitamins, and omega 3 fatty acids, all of which are key nutrients for cognitive health²³. Dietitians can train health workers and carers to improve the nutritional adequacy of food intake for people with dementia, potentially optimising cognitive capabilities²⁴. A recent cornerstone study²⁵, showed that high dose levels of Vitamin E in people with diagnosed AD, protected cognitive function and prevented functional decline better than current treatment options. It is likely that with improvements in study design, identification of deficient populations and optimum dosages, more

definitive evidence will emerge²⁶.

Education

Dietitians work with people living with dementia, their families and carers and with all levels of health and social care professionals across acute, community, mental health and residential care settings to ensure optimal nutritional care for people with dementia. This is with the ultimate aim of decreasing their risk of malnutrition^{27,28}, dehydration, physical²⁹ and cognitive frailty³⁰. Poor nutrition and hydration in older people may lead to increased risk of falls, infections, confusion and unplanned hospital admissions^{31,32}. Unplanned hospital admission may result in loss of functional independence and worsening cognition that is often not recovered post discharge³³.

Key Fact

People with Alzheimer's and other dementias have more than three times as many hospital stays per year as other older people.

Nutrition support

Dietitians continue to provide support as AD or dementia progresses, using their expertise to help people maintain adequate nutrition and hydration, primarily through the use of nutritious food, and where appropriate, prescribed nutrition support^{34,35}. The latter may be indicated where behaviour, profound appetite loss or swallowing difficulties prevents the consumption of adequate amounts of food and drink. Dietitians also provide evidence based advice regarding appropriateness of more invasive nutrition support and play a key role in best interest decision making, preventing the inappropriate placement of feeding tubes³⁶. All of this promotes quality of life for both patients and carers.

Dietetic input to strategic frameworks

Dietitians actively contribute to many of the 17 key objectives outlined in the National Dementia Strategy³⁷:

- improved community personal support
- improved care in general hospitals
- improved intermediate care for dementia
- improved care home care
- improved end of life care
- improving workforce education
- dementia research.

The Scottish National Dementia Strategy³⁸, has produced a community based 8 pillar model of support,

of which 4 sections are general health and well being, personalised support, therapeutic intervention and supporting carer's. Alzheimer Scotland have been commissioned to produce an evidence based policy document outlining how dietitians have a role in each of these areas from prevention to advanced stages of dementia.

Summary

Dementia is an increasing health crisis for health authorities worldwide and current treatments can only provide temporary symptomatic relief. Dietitians routinely provide education and advice for patients, healthcare professionals and carers to help reduce dietary risk factors. Dietitians also play a crucial role in identifying and treating malnutrition which may help to slow cognitive decline by correcting functional nutrient deficiencies and helping prevent increasing physical and cognitive frailty. Timely and appropriate nutrition support may help keep people in their homes longer and delay premature admission to residential care. As evidence continues to gather around diet as a useful multi-modal intervention, Dietitians will continue to play a central role in optimising food and nutrient intakes for people with AD.

Case study



Mr S

Mr S was diagnosed with Alzheimers disease and initially over a six month period his weight changed from 69kg (a healthy BMI of 23.3 kg/m²) to 54kg (an unhealthy, low BMI of 18.3 kg/m²) and a MUST score of 4, due to increasing depression and apathy following his diagnosis. The dietitian advised small frequent meals and an oral nutritional supplement drink twice daily. After 3 months the oral nutritional supplements could be stopped and Mrs S felt he was brighter and had greater energy. The Dietitian had also showed Mrs S ways to boost the nutrient and calorie content of meals, a strategy she often employed in the next few years when his eating deteriorated.

Dietetic intervention improved Mr S's quality of life and may have prevented his premature admission to a care home environment.