

Supporting good nutrition for dementia



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Older People

Specialist Group

Supporting good nutrition for dementia



- Prevalence
- Prevention
- Nutritional status and malnutrition
- Impacts on health
- What works? - Current evidence

Prevalence



Diet and prevention



- Multi-nutrient/non-nutrient interventions tend to demonstrate more positive results than single nutrient studies (Vauzour et al 2017)
- Cochrane reviews have found no evidence that either omega 3 fatty acids or vitamin E slow decline in cognitive function (Burckhardt et al 2016; Farina et al 2017)
- The most compelling evidence currently suggests that the Mediterranean diet is preventative (Hardman et al 2016)

Dementia and nutritional status



- The earliest preclinical stages of Alzheimer's disease (prior to diagnosis) are associated with lower body mass, accelerating sarcopenia and loss of fat mass (Vidoni et al 2011)
- Cova et al (2016) suggest that unplanned weight loss is so closely connected with dementia that it can be considered as one of its clinical signs
- Unplanned weight loss could be used as a marker of progression from mild cognitive impairment to Alzheimer's disease (Cova et al 2016)

Malnutrition and cognitive function



- Malnutrition is common in older people and tends to be associated with decreased cognition (Shah 2013)
- In general, people who:
 - do not eat well-balanced meals
 - frequently miss breakfast
 - are generally malnourished

are unable to perform at the same cognitive level as those who eat regularly (King 2012)

Malnutrition in dementia



- **Malnutrition prevalence in people with dementia:**
 - 12 - 50% of people with dementia are malnourished (Faxen Irving 2003)
 - Clinically significant weight loss occurs in 30 - 40% of people with dementia (Franx et al 2017)
 - Approx 30% of hospital patients with dementia are malnourished (Meijers et al 2009)
 - Older adults with mild cognitive impairment and dementia are more likely to be malnourished than those without cognitive impairment (Orsitto et al 2009)
 - Up to 68% of people with severe Alzheimer's disease are at risk of malnutrition (Franx et al 2017)
 - 76% of institutionalised people with dementia needed to be fed, refused food or choked on liquid or solid foods (Abdelhamid et al 2016)

Weight loss in dementia



- Unintentional weight loss in frail older people is associated with higher rates of:
 - Mortality
 - Institutionalization
 - Adverse health outcomes
 - Decline in functional status
 - Overall poorer quality of life
- And in addition, in older people with dementia, with increased:
 - Syndrome severity
 - Incidence of behavioural problems (Franx et al 2017)

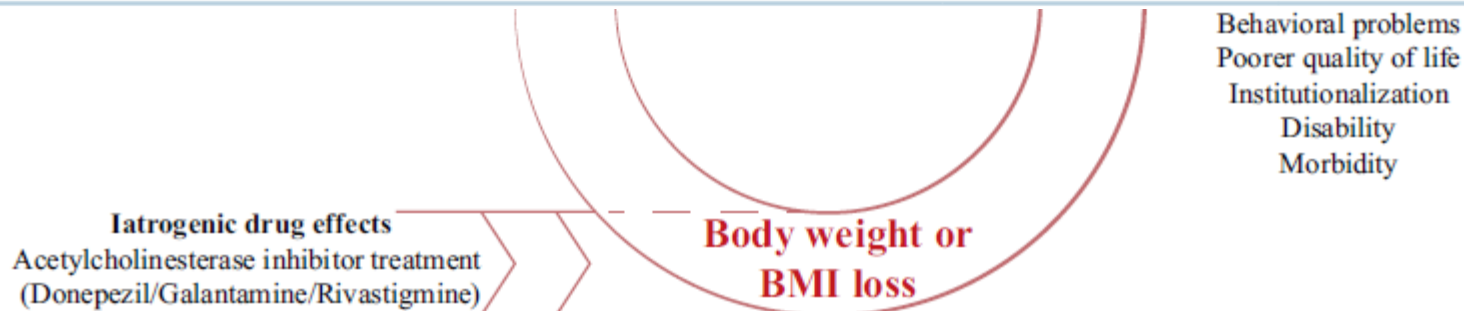
Weight loss in dementia



Dementia-related factors
Cognitive disturbances

Cognitive decline

Complications	Timeframe	Likelihood
weight loss	variable	low
Weight loss may be associated with protein and energy malnutrition, leading to severe complications such as alteration of the immune system, muscular atrophy, and loss of independence.		



Vicious circle of cognitive impairment, loss of body weight and dementia progression (Franx et al 2017)

Impacts on health



- Of total hospital admissions in the UK:
 - 1% are due to dehydration
 - 3% are due to anorexia or malnutrition
- However, people with dementia have ten times more acute admissions for these reasons than age-matched controls do (Abdelhamid et al 2016)
- In an American study, there was a strong association between dementia and potentially avoidable acute admissions
- Admissions for bacterial pneumonia, dehydration, and urinary tract infections were significantly higher for people with dementia (Prince et al 2016)

Impacts on health



- Eating and drinking difficulties are a major source of ill health and stress for people living with dementia and for their carers
- Addressing these difficulties was identified as one of their top-ten research priorities by people with dementia and their formal and informal carers
(Abdelhamid et al 2016)

So what works? - Current evidence



- Two large systematic reviews published in 2016, considered effectiveness of interventions to directly and indirectly support food and fluid intake in people with dementia (Abdelhamid et al 2016; Bunn et al 2016)
- They did not find definitive evidence of either effectiveness or lack of effectiveness for any specific interventions
- Both studies commented that studies that had been published tended to be small and short term
- Despite the lack of high quality evidence, both studies acknowledged that people living with dementia and their carers still need advice on interventions that might be helpful

So what works? - Current evidence



- Research recently published by Murphy et al (2017) considered development of “a model for understanding the provision of good nutritional care for people living with dementia in nursing homes”



Fig. 1 Model for the provision of good nutritional care in dementia

So what works? - Current evidence



- Nutritional wellbeing is not just about what people eat and drink
- Anthropological research suggests that eating together is a core human activity and is important for building social groups (Abdelhamid et al 2016)
- Mealtimes reflect our identity and enable us to make and maintain connections with others

So what works? - Current evidence



- Meal type

- Eating meals with carers
- Family style meals
- Bulk food service (not pre-plated or individually served on trays)
- Supported involvement in meal preparation and clearing up after meals

- Support during meals

- Directed verbal prompts, positive reinforcement, systematic prompting, cueing
- Encouragement of eating through gentle touch
- Individual mealtime assistance



So what works? - Current evidence



- **Eating environment**

- Lighting and contrast interventions to improve visual cues
- Mealtime music - soothing, pop or familiar
- Additional time for meals



- **Access to food and drinks outside of mealtimes**

- Glass-door fridge with constantly accessible snacks
- Between meal feeding assistance



So what works? - Current evidence



- **Training and support**

- Extensive staff education and support
- Increased nutritional awareness and communication
- Education and support for informal carers
- Tailored nutritional training to people with dementia and their spouses
- More Dietetic input

So what works? - Current evidence



- **Other approaches**

- Exercise - high intensity, to familiar music, flexibility, aerobic exercise, strength training
- Reminiscence cooking sessions
- Oral hygiene

- **Food type**

- Finger food
- Modified texture food for people with dysphagia
- Oral nutritional supplements...



Supporting good nutrition for people with dementia - Conclusions



- Communicate
- Person centred care
- Involve people with food related activities
- Screen for undernutrition
- Aim to meet nutritional needs
- Start with a food based approach
- Follow local guidance
- Sip feeds if indicated by local guidance and acceptable to person with dementia



→ 500 calories per day
→ day in addition

Patient/carer Information: Food First - Homemade supplements
For use with "Eating well for small appetites" or increase intake by 500 calories per day* if high risk of malnutrition

Fortified milkshake
Makes 1 portion

- Most nutritionally complete choice

Ingredients

- 280ml full fat milk
- 30g skimmed milk powder
- 20g vitamin fortified milkshake powder (Melsiquil or Trisco Milkshake Mix)

Directions

Mix milk powder and milkshake powder together in a glass.
Gradually mix in milk and stir well.
Serve 2 portions per day.

1 portion = 220ml

Over the counter equivalent	1 portion contains:	1 portion costs:
1 sachet Complan = 200ml full fat milk (210kcal) = £0.95	• 305 calories	£0.32
1 sachet Apres Retail = 200ml full fat milk (210kcal) = £0.57	• 37g proteins	
	• 46g carbohydrate	
	• 7.5g fat	

Fortified fruit juice (favour those below)
Makes 1 portion

- Suitable for those who do not like milky drinks

Ingredients

- 180ml fruit juice
- 100ml water
- 40ml unflavoured high juice squash or cordial* (most sugar free) (or 1/2 no added sugar)
- 30g (2 x 15g sachets) egg white powder*

Directions

Mix unflavoured cordial or squash into egg white powder (do not whisk).
Gradually mix in fruit juice.
Serve 2 portions per day.

1 portion = 220ml

Try:	1 portion contains:	1 portion costs:
• high juice blackcurrant + squash + cranberry juice	• 212kcal	
	• 8.6g proteins	£0.74
	• 45.6g carbohydrate	
	• 0g fat	
• high juice orange squash + apple juice	• 208kcal	
	• 8.4g proteins	£0.74
	• 30g carbohydrate	
	• 0g fat	
• high juice orange squash + apple juice or blackcurrant + apple juice	• 238/250kcal	£0.93
	• 8.6g proteins	
	• 46.6/52g carbohydrate	
	• 0g fat	
• high juice cranberry squash + orange juice	• 182kcal	
	• 9.4g proteins	£0.76
	• 34.2g carbohydrate	
	• 0g fat	

*Make fortified milk by adding 3 - 4 tablespoons.

References



- Abdelhamid A, Bunn DK, Copley M, Cowap V, Dickinson A, Howe A, Killett A, Poland F, Potter JJF, Richardson K, Smithard D, Fox C and Hooper L (2016) Effectiveness of interventions to directly support food and drink intake in people with dementia: systematic review and meta-analysis. *BMC Geriatrics* 16:26
- Alzheimer's Research UK (2017) <https://www.dementiastatistics.org/statistics/prevalence-projections-in-the-uk/> accessed on 14/5/17
- Bunn DK, Abdelhamid A, Copley M, Cowap V, Dickinson A, Howe A, Killett A, Poland F, Potter JJF, Richardson K, Smithard D, Fox C and Hooper L (2016) Effectiveness of interventions to indirectly support food and drink intake in people with dementia: Eating and Drinking Well IN dementia (EDWINA) systematic review. *BMC Geriatrics* 16:89
- Burckhardt M, Herke M, Wustmann T, Watzke S, Langer G, Fink A (2016) Omega-3 fatty acids for the treatment of dementia (Review). *Cochrane Database of Systematic Reviews*, Issue 4. Art. No.: CD009002
- Cova I, Clerici F, Rossi A, Cucumo V, Ghiretti R, Maggiore L, Pomati S, Galimberti D, Scarpini E, Mariani C, Caracciolo B (2016) Weight Loss Predicts Progression of Mild Cognitive Impairment to Alzheimer's Disease. *PLoS ONE* 11(3): e0151710.
- Farina N, Llewellyn D, Isaac MGEKN, Tabet N (2017) Vitamin E for Alzheimer's dementia and mild cognitive impairment (Review). *Cochrane Database of Systematic Reviews*, Issue 4. Art. No.: CD002854
- Faxen Irving (2003) Nutrition and cognitive function in the elderly. *Scandinavian Journal of Nutrition*. 47 (3): 139-142
- Franx B, Arnoldussen I, Liliaan A, Gustafson D (2017) Weight Loss in Patients with Dementia: Considering the Potential Impact of Pharmacotherapy. *Drugs Aging*

References



- Hardman RJ, Kennedy G, Macpherson H, Scholey AB, Pipingas A (2016) Adherence to a Mediterranean-Style Diet and Effects on Cognition in Adults: A Qualitative Evaluation and Systematic Review of Longitudinal and Prospective Trials. *Front Nutr.* 22;3:22
- King (2012) Nutrition and Cognitive Functioning: Multifaceted Analysis of Physiological and Psychological Components. *PURE Insights: Vol. 1: Iss. 1, Article 6*
- Meijers, Schols, van Bokhorst-de van der Schueren, Dassen, Janssen & Halfens (2009) Malnutrition prevalence in The Netherlands: results of the annual Dutch national prevalence measurement of care problems. *Br J Nutr.* 101(3):417-23
- Murphy JL, Holmes J, Brooks C (2017) Nutrition and dementia care: developing an evidence-based model for nutritional care in nursing homes. *BMC Geriatrics* 17:55
- Orsitto, Fulvio, Tria, Turi, Venezia & Manca (2009) Nutritional status in hospitalized elderly patients with mild cognitive impairment. *Clin Nutr* 28(1):100-2
- Prince M, Comas-Herrera A, Knapp M, Guerchet M, Karagiannidou M (2016) World Alzheimer Report 2016: Improving healthcare for people living with dementia - coverage, Quality and costs now and in the future. Alzheimer's Disease International (ADI), London
- Shah (2013) The Role of Nutrition and Diet in Alzheimer Disease: A Systematic Review. *J Am Med Dir Assoc.* 14(6):398-402
- Vauzour D, Camprubi-Robles M, Miquel-Kergoat S, Andres-Lacueva C, Bánáti D, Barberger-Gateau P, Bowman GL, Caberlotto L, Clarke R, Hogervorst E, Kiliaan AJ, Lucca U, Manach C, Minihanea A, Mitchell ES, Pernecky R, Perry H, Roussel A, Schuermanse J, Sijben J, Spencer JPE, Thuret S, van de Rest O, Vandewoude M, Wesnes K, Williams RJ, Williams RSB, Ramirez M. (2017) Nutrition for the ageing brain: Towards evidence for an optimal diet. *Ageing Research Reviews* 35: 222-240
- Vidoni, Townley, Honea & Burns (2011) Alzheimer disease biomarkers are associated with body mass index. *Neurology* 22;77(21):1913-20

Thank you



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