

Why you should read this article:

- To understand the importance of optimal nutritional care in care home residents with dementia
- To explore person-centred interventions to improve the food and drink intake of older people with dementia
- To contribute towards revalidation as part of your 35 hours of CPD (UK readers)
- To contribute towards your professional development and local registration renewal requirements (non-UK readers)

Improving nutrition and hydration in older people with dementia in care homes

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Abstract

Dementia can have significant adverse effects on people's ability to eat and drink sufficiently. People with dementia can experience malnutrition and unintentional weight loss at any stage of the condition, but these occur more often in the middle and late stages. It is important that nurses and care staff working in care homes have the appropriate knowledge and skills to provide optimal nutritional care to residents, thereby improving their health, well-being and quality of life. This article provides an overview of nutrition and hydration issues commonly experienced by people with dementia. It explores common causes of suboptimal nutrition and hydration, outlines tools for nutritional screening and assessment and discusses interventions to improve the nutritional care of care home residents with dementia.

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Keywords

care homes, clinical, dementia, hydration, malnutrition, neurology, nursing homes, nutrition, nutritional assessment, nutritional care, nutritional intake, nutritional support, older people

Aims and intended learning outcomes

The aim of this article is to support nurses to provide optimal nutritional care to older people with dementia in care homes. After reading this article and completing the time out activities you should be able to:

- » Summarise the possible causes of suboptimal nutrition and hydration in people with dementia.
- » Explain why nutrition and hydration become more challenging as dementia progresses.
- » Acknowledge the important role of optimal nutrition and hydration in dementia care.
- » Understand the principles of and tools for nutritional screening and assessment.
- » Describe person-centred approaches to nutritional care for people with dementia.

Introduction

Dementia is a collective term used to describe a number of conditions and symptoms associated with the progressive loss of

cognitive ability, which can include memory loss, reasoning and communication challenges, personality changes and a reduction in the person's ability to carry out daily activities (National Institute for Health and Care Excellence (NICE) 2018). There are more than 200 subtypes of dementia, the most common being Alzheimer's disease (50-75%), vascular dementia (20%), dementia with Lewy bodies (10-15%) and frontotemporal dementia (2%) (NICE 2021). Around 70% of older people living in care homes in the UK have dementia and numbers are increasing with an ageing population (Alzheimer's Society 2014).

Dementia can affect eating and drinking leading to unintentional weight loss, malnutrition and dehydration. These may, in turn, increase the risk of infection, pressure ulcers, falls, frailty, morbidity and mortality, thereby having significant negative effects on quality of life and clinical outcomes (Volkert et al 2015). Difficulties with eating

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and drinking are common in people with dementia and occur most often in the middle and late stages of the condition (Alzheimer's Society 2020), but they can begin at any stage and are a main contributory factor for malnutrition in this population (Roqué et al 2013). As dementia progresses, associated behavioural, cognitive and physical changes can make eating and drinking more challenging (Kai et al 2015, Herke et al 2018). People with dementia may not eat enough or may overeat as a result of these changes and become increasingly dependent on carers for assistance with eating and drinking (Cipriani et al 2016).

This article provides an overview of common causes of suboptimal nutrition and hydration in people with dementia, outlines tools used for nutritional screening and assessment and discusses interventions to improve the nutritional care of care home residents with dementia.

TIME OUT 1

Reflect on an older person you have encountered in your practice who became malnourished. Why were they not eating and drinking well? Was there a physical issue? Was this associated with altered behaviours? Did you observe the person at certain times of the day to determine the causes of their eating and drinking issues?

Causes of suboptimal nutrition and hydration

Common causes of suboptimal nutrition and hydration in people with dementia include loss of appetite, loss of taste and smell, forgetting to eat and drink, swallowing and chewing difficulties, issues associated with mealtimes and issues associated with behaviour.

Loss of appetite

Many people with dementia have a poor appetite causing reduced food intake and unintended weight loss (Kai et al 2015), although the reasons for this may differ. For example, in people with Alzheimer's disease poor appetite may arise from dementia-related brain atrophy affecting the regions responsible for appetite, thirst regulation and eating behaviours (Lauriola et al 2018). Other causes of poor appetite in people with Alzheimer's disease include oral or dental issues, lack of activity, depression, recurrent infection, pain, constipation and side effects of medicines (Kai et al 2015, Suma et al 2018).

Loss of taste and smell

Loss of taste and smell can occur as part of the normal ageing process but also in the early stages of dementia (Aliani et al 2013).

People with the apolipoprotein ε4 allele – a polymorphism associated with an increased risk of developing Alzheimer's disease – are at greater risk of changes to their taste and smell before the onset of cognitive impairment (Olofsson et al 2010). A review of appetite, metabolism and hormonal regulation in normal ageing and in dementia suggested that people with dementia, particularly those with Alzheimer's disease, were more likely to have a strong preference for sweet foods (Nifli 2018). People with dementia may also experience marked changes in their food preferences (Doorduyn et al 2020).

Forgetting to eat and drink

People with dementia and memory impairment may forget to eat or forget that they have already eaten, resulting either in missed meals and increased risk of weight loss, or repeating meals and increased risk of weight gain (Hsiao et al 2013, Kai et al 2015). While a small weight gain may be acceptable, excessive or rapid weight gain is likely to affect health outcomes and quality of life. Weight loss should not be deliberately sought because it is likely to occur anyway as dementia progresses (Volkert et al 2015). The loss of cognitive function associated with dementia may mean that people are no longer able to eat and drink normally, make decisions about food and fluid intake and find it difficult to communicate hunger and thirst (Cipriani et al 2016).

TIME OUT 2

Identify a resident in your care home who is at risk of not consuming enough fluids. This could be someone who is new to the care home. Measure the volume of the various cups and glasses used at the care home then observe and calculate the person's daily fluid intake. How could staff support them to increase their fluid intake?

Swallowing and chewing difficulties

Dysphagia (swallowing difficulties) has been reported in 13-57% of people with different types of dementia and is most common in the later stages of Alzheimer's disease and in frontotemporal dementia (Alagiakrishnan et al 2013). A retrospective observational study conducted in a hospital in Japan found that older people with dementia and dysphagia had twice the risk of dying as a result of aspiration pneumonia than those without dementia and dysphagia (Manabe et al 2017). People with dementia may retain their food in their mouth because they have difficulties forming a bolus and/or experience delayed initiation of swallowing, while other signs of dysphagia include choking, coughing and a 'wet voice'

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while eating or drinking (Payne and Morley 2018). Chewing difficulties may occur because of fatigue from sustained mastication, forgetting to chew, mouth pain, dental caries or poorly fitting dentures (Payne and Morley 2018).

Issues associated with mealtimes

In people with Alzheimer's disease, issues associated with mealtimes tend to develop early and persist throughout the disease trajectory, and they are often related to cognitive changes (Kai et al 2015). Common issues include distractibility, eating non-finger food with the hands, playing with food or non-food items, eating pieces of food that are too large and a preference for sweet foods (Kai et al 2015). As dementia becomes more severe, issues such as difficulty in starting a meal or with using utensils, combined with reduced hand-mouth coordination and issues with sustaining attention and/or remaining alert, occur more frequently (Eda Hiro et al 2012). Apraxia (loss of ability to carry out motor movement) is common in people with Alzheimer's disease (Ahmed et al 2016) and affects their use of utensils to prepare meals, cut food and transfer food from plate to mouth. These various issues can affect a person's independence and increase their reliance on assistance with eating and drinking (Cipriani et al 2016).

Issues associated with behaviour

The behavioural and psychological symptoms reported in people with dementia (Kales et al 2015) can affect their eating habits and nutritional care negatively. Some people lose the ability to recognise familiar places and may exhibit 'walking with a purpose' behaviours (Cipriani et al 2014). If this occurs at mealtimes the person is unable to remain seated for long which can reduce their food intake (Murphy et al 2017a). Agitation can result in altered or suboptimal eating behaviours, while changes in personality may affect people's engagement with food and alter their food preferences. Delusional thinking, mood changes and aggressive behaviours can affect eating habits and increase the challenges faced by staff when assisting people with eating and drinking (Cipriani et al 2016).

TIME OUT 3

Think again about the older person you reflected on in time out 1. How were the problems that were causing suboptimal nutrition and hydration addressed? Were the difficulties mapped through a nutritional assessment? Did different healthcare professionals contribute to the assessment?

Nutritional screening and assessment

Malnutrition in people with dementia can be prevented through early detection and intervention. Nutritional screening and assessment should be an integral part of managing people with dementia and meet the recommendations on nutritional support in adults issued by NICE (2012, 2017).

Older people in care homes should undergo nutritional screening on admission and whenever there is clinical concern. In the UK, the Malnutrition Universal Screening Tool (MUST) is a commonly used validated screening tool to detect the risk of malnutrition (British Association for Parenteral and Enteral Nutrition 2003). However, there are challenges associated with using screening tools in community settings. Bracher et al (2019) evaluated the implementation of a new procedure for the screening and treatment of malnutrition in older people in community settings. They reported a number of inhibiting factors, including low prioritisation of nutritional care, insufficient time for staff to screen and treat, an organisational culture focused on achieving tasks rather than obtaining insights and limited knowledge and skills among community staff (Bracher et al 2019).

Alternative approaches to early identification of clinical concern associated with malnutrition risk have been developed for use where it is not possible to take objective anthropometric measures of weight, height and recent weight loss. These include the Patients Association Nutrition Checklist (Patients Association 2021) and its interactive form as the Nutrition Wheel (Wessex Academic Health Science Network 2022) (Figure 1), which incorporates validated questions designed to identify the risk of malnutrition in older people through conversation (Murphy et al 2020). These and other validated tools can be accessed at www.malnutritiontaskforce.org.uk/mtf-resources/guide-using-mtf-tools

It is important to identify not only people's risk of malnutrition but also their dementia-related behavioural challenges with eating. The Edinburgh Feeding Evaluation in Dementia (EdFED) scale (Stockdell and Amella 2008) and the Eating Behavior Scale (EBS) (Tully et al 1997) are standardised tools for assessing eating difficulties in older people with dementia (Jung et al 2021).

The EdFED scale is designed for use in people with late-stage dementia and identifies eating and feeding difficulties and changes in the level of those difficulties,

Key points

- Dementia can affect people's ability to eat and drink sufficiently, leading to unintentional weight loss, malnutrition and dehydration
- People with dementia may lose their appetite or sense of taste and smell, forget to eat and drink, experience dysphagia or apraxia and undergo cognitive and behavioural changes
- The nutritional status of care home residents with dementia should be carefully assessed and closely monitored as their condition progresses
- Increasing food intake in people at risk of malnutrition should initially follow a 'food first' approach combined with improvements to the mealtime environment and the psychosocial aspects of meals

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but only measures certain behaviours. The EBS measures the functional ability of people with Alzheimer’s disease during eating. Both tools are limited in helping to explain dementia-related behavioural challenges with eating.

Alongside behavioural challenges other issues, such as dysphagia, difficulty using utensils, adequate positioning and level of assistance required, must be considered (Jung et al 2021). A person-centred approach to nutritional screening and assessment is needed to respond to the person’s individual needs. Communication tools designed to involve people with dementia in decision-making should be used to support this (NICE 2018).

TIME OUT 4

Reflect on the tools used for nutritional screening and assessment in your setting. These may include tools to identify the risk of malnutrition or food and fluid charts. How often are these tools used? What actions are taken in response to the outcomes of screening and assessment?

Interventions to support people at mealtimes

Assessing the person with dementia in a mealtime context will support staff to identify challenges and determine what adaptations may be required. Adaptations may relate to the timing of meals, the approach to serving meals, the environment during

and around mealtimes and the support provided during meals.

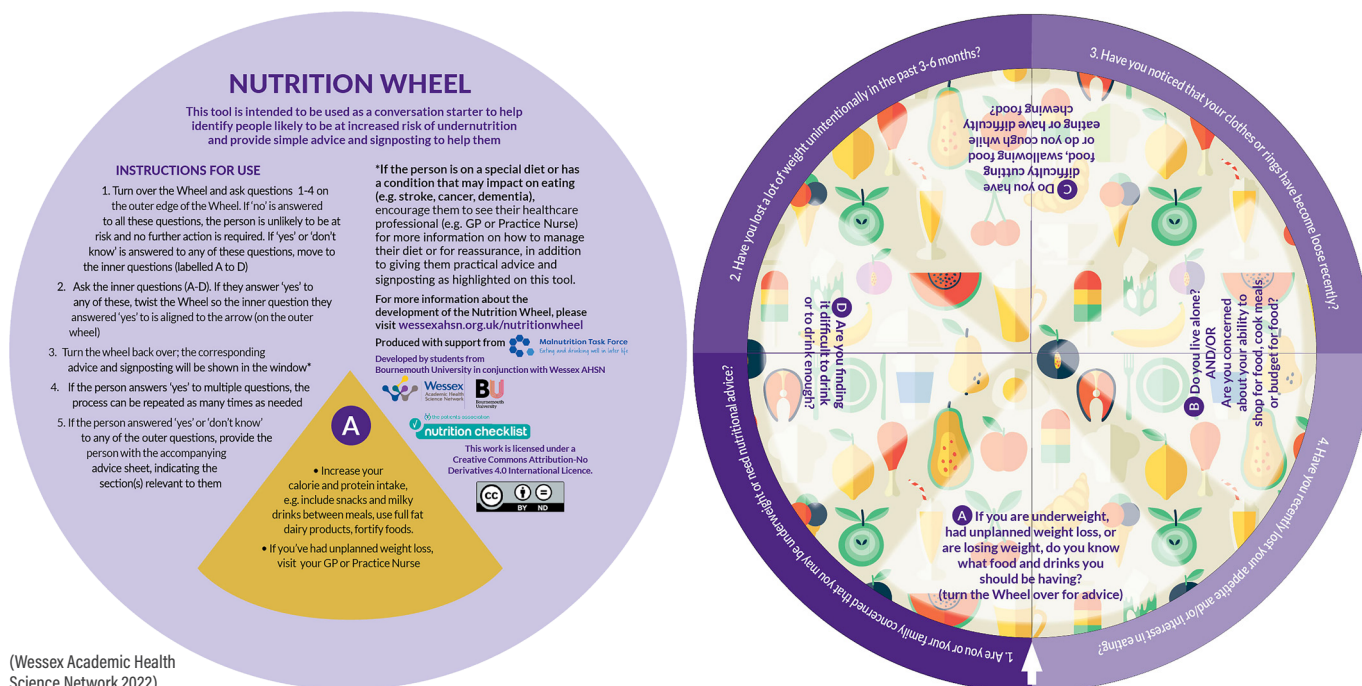
There have been several systematic reviews of interventions designed to improve food and drink intake in people with dementia (Abdelhamid et al 2016, Bunn et al 2016, Herke et al 2018), mealtime functional ability (Fetherstonhaugh et al 2019) and mealtime interactions between carers and residents in care homes (Faraday et al 2021). Overall, these reviews show some benefits of the interventions examined, although the quality of some studies is suboptimal and small sample sizes make generalisation of the findings difficult. However, some qualitative studies (Barnes et al 2013, Keller et al 2015) and innovative approaches to capturing how people with dementia and their caregivers interact, for example through videotaped observations of mealtime care interactions between nursing home residents with dementia and staff (Liu et al 2020), have also contributed to the understanding of improving mealtime experiences.

Table 1 lists interventions and strategies to support older people with dementia at mealtimes that are informed by these systematic reviews and qualitative studies.

Interventions to ensure person-centred nutritional care

Person-centred care seeks to maintain personhood by using personal experience to individualise care, seeing behaviour from the

Figure 1. Nutrition wheel



(Wessex Academic Health Science Network 2022)



person’s perspective, involving relatives in care and facilitating shared decision-making, which leads to improved well-being and reduced ill health (Brooker 2004, McCormack and McCance 2006, McCormack et al 2011). The principles of person-centred care support optimal nutritional care by prompting staff to understand and respect people’s food-related customs, behaviours and preferences. Murphy et al (2017b) developed a research-informed model to support the provision of person-centred nutritional care for people with dementia in care homes. The overarching theme was person-centred care, with six subthemes which are shown with examples in Table 2.

The research by Murphy et al (2017b) also informed development of the Eating and Drinking Well with Dementia toolkit, which contains resources designed to enhance the knowledge and skills of care staff and informal carers – see Box 1. Murphy and Aryal (2020) evaluated the effects of one of the resources in the toolkit, Eating and Drinking Well with Dementia: A Guide for Care Staff, and found that it can support staff to assist people with dementia with their food and fluid intake. An update of the workbook Eating and Drinking Well: Supporting People Living with Dementia is planned in 2022.

TIME OUT 5

Reflect on the six subthemes in Table 2. What, in practical terms, makes the nutritional care you provide person-centred?

Interventions to increase food and drink intake

The NICE (2018) guideline on assessment, management and support for people living

with dementia and their carers recommends that staff should ‘encourage and support people living with dementia to eat and drink, taking into account their nutritional needs’ and to ‘consider involving a speech and language therapist if there are concerns about a person’s safety when eating and drinking’. Increasing food and drink intake relies on an individual assessment of the person’s needs. The aim should be to maintain independent eating and drinking and encourage the intake of as close to a normal diet as possible for as long as possible, with consideration of how to best support the person’s social and behavioural needs.

Food fortification

If a person is losing weight unintentionally and has a reduced appetite, the first-line measure should be a ‘food first approach’, whereby food is fortified to contain more energy (calories), protein and nutrients (NICE 2017). This is usually combined with smaller meal portions and snacks between meals. NICE (2017) emphasises that the overall food intake should contain a balance of nutrients, including protein, vitamins and minerals, as well as calories. Snacks should include nutrient-dense foods, for example cheese and crackers, thick and creamy yoghurts, or custard pots with added milk powder, while fruit and vegetables could be served with calorie-rich foods such as ice-cream, custard, jam or cream (Jones 2019).

Finger foods

If a person has difficulties with hand-mouth coordination and using cutlery, independence can be promoted by using adapted cutlery and

FURTHER RESOURCES

Nutrition resources from the Malnutrition Task Force malnutritiontaskforce.org.uk/resources

Guide to the Malnutrition Universal Screening Tool (MUST)

bapen.org.uk/pdfs/must/must_explan.pdf

Table 1. Interventions and strategies to support older people with dementia at mealtimes

Food choice, taste and appearance	Mealtime experience	Mealtime environment	Mealtime assistance
<ul style="list-style-type: none"> » Serve foods that people are familiar with » Find out about and respect people’s food preferences » Serve again foods that people have liked » Offer a wide variety of foods » Add extra flavour, for example by using spices, herbs, lemon or lime, garlic powder or garlic, tomato puree or balsamic vinegar » Offer naturally sweet foods such as fruit, carrots, sweet potatoes, sweet sauces, pickles, chutneys, milk-based puddings, trifle and fruit and custard » Use moulds to shape foods and improve their visual appearance 	<ul style="list-style-type: none"> » Staff eating with residents can increase food intake, encourage self-feeding and improve interactions (copycat action) » Creating a homely or family mealtime experience can increase participation and communication » Reminiscence therapy at mealtimes can improve food intake » Facilitate eating with others or eating alone according to preference 	<ul style="list-style-type: none"> » Improved lighting and table setting (for example, contrasting tablecloth and placemats or plain, non-patterned table settings) can make the environment easier to perceive and therefore increase food and drink intake » Noise reduction, including by turning off radio and TV, can help avoid distractions and encourage food and fluid intake » Playing familiar background music at mealtimes can reduce agitation and aggressive behaviour » Placing the eating area near the kitchen enables people to smell food, which can stimulate their appetite » Using adapted cups, cutlery and crockery can support independence 	<ul style="list-style-type: none"> » Support people to adopt an optimal position for eating » Provide timely assistance during meals » Allow sufficient time for eating » Use verbal prompts to support and encourage eating » Encourage eating by showing food before a meal and serving food at the table » Using hand-feeding technique (direct hand and under-hand feeding) may encourage food intake and reduce aversive feeding behaviours (Batchelor-Murphy et al 2017)

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crockery and offering finger foods. Offering finger foods may also increase a person’s food intake at meals and snack times. Finger foods should include vegetable sticks and dips, sliced fruit and cheese cubes. Serving finger foods in snack boxes may be useful for people who may take longer to eat or are too distracted to sit at the table.

Food texture

Modifying the texture of food can support people with swallowing and chewing difficulties to continue to enjoy eating and drinking. Offering soft foods such as eggs, fish, mashed potatoes, stews, porridge and cereals soaked in milk can be helpful. People

with suspected dysphagia must be referred to a speech and language therapist for advice on safe and appropriate food texture modification (NICE 2018). Food texture modification can reduce people’s energy and protein intake because of the associated reduction in energy density, increased volumes of food and less appealing presentation (Vucea et al 2017). Using moulds to shape foods and keeping purées separate from each other may help to make modified-texture foods more appealing (Murphy et al 2017b).

Vitamin D

Vitamin D is found in some foods such as oily fish, egg yolks, red meat and fortified breakfast cereals. It plays an important role in bone and muscle health, thereby reducing the risk of frailty and falls and enhancing immune function (Public Health England 2016). Low levels of vitamin D are common in older people, particularly those living in care homes, due to limited exposure to the sun. NICE (2022) recommends that adults with risk factors for vitamin D deficiency, which include being aged ≥65 years and having low or no exposure to the sun, take a daily supplement containing 400 international units of vitamin D throughout the year.

Oral nutritional supplements

People at medium to high risk of malnutrition should be given oral nutritional supplements, which are classified as foods for special medical purposes that can be used to help manage disease-related malnutrition. These supplements should be used as an addition to meals and in conjunction with food fortification strategies, not as a food replacement (NICE 2017).

Conclusion

Nurses can improve the nutritional care of care home residents with dementia. Residents should be carefully assessed and closely monitored, and their nutrition and hydration should be adapted to their needs as their condition progresses. A person-centred approach is needed since different types and stages of dementia will have different effects on the ability to eat and drink sufficiently. In the first instance, increasing food intake in people at risk of malnutrition should follow a ‘food first’ approach, combined with improvements to the mealtime environment and psychosocial aspects of meals. Care home staff need education and training so they can provide effective nutritional care for residents with dementia to optimise their health, well-being and quality of life.

Table 2. Subthemes from a research-informed model to support the provision of person-centred nutritional care for people with dementia in care homes

Subtheme	Examples
Appeal and availability of food and drink	<ul style="list-style-type: none"> » Accommodating changing tastes and preferences » Appealing presentation of meals » Modification of food – for example, food fortification, puréeing food » Oral nutritional supplements » Offering drinks and prompting people to drink
Tools, resources and environment	<ul style="list-style-type: none"> » Nutritional screening » Adapted equipment, equipment in contrasting colours » Prompting and encouraging people to eat » Giving the person time to eat » Environmental factors such as table setting
Relationship to others when eating and drinking	<ul style="list-style-type: none"> » Encouraging family members to eat at mealtimes with residents » Nurses and care staff eating their meals with residents to prompt eating and drinking » Ensuring personality compatibility between residents at mealtimes
Participation in activities	<ul style="list-style-type: none"> » Creating aromas to stimulate appetite and evoke memories » Increasing appetite by enhancing a sense of purpose and identity » ‘Themed days’
Consistency of care	<ul style="list-style-type: none"> » Making optimal nutrition and hydration a care priority » Improved communication between all those involved in care
Provision of information to staff	<ul style="list-style-type: none"> » Ensuring staff have access to trustworthy information and resources » Providing education and training to staff » Ensuring staff are aware of guidelines

(Adapted from Murphy et al 2017b)

Box 1. Contents of the Eating and Drinking Well with Dementia toolkit

- » Workbook: Eating and Drinking Well: Supporting People Living with Dementia
 - » Guide for care staff: Eating and Drinking Well with Dementia: A Guide for Care Staff
 - » Guide for family carers and friends: Eating and Drinking Well with Dementia: A Guide for Family Carers and Friends
 - » Leaflet: Eating and Drinking Well
 - » Video: Eating and Drinking Well: Supporting People Living with Dementia
- These resources are freely available at www.bournemouth.ac.uk/nutrition-dementia

TIME OUT 6

Identify how improving nutrition and hydration in older people with dementia living in care homes applies to your practice and the requirements of your regulatory body

TIME OUT 7

Now that you have completed the article, reflect on your practice in this area and consider writing a reflective account: rcni.com/reflective-account

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Nutrition in dementia

TEST YOUR KNOWLEDGE BY COMPLETING THIS MULTIPLE-CHOICE QUIZ

1. At which stage of dementia can difficulties with eating and drinking begin?

- a) Middle stage
- b) Any stage
- c) Early stage
- d) Late stage

2. Common causes of suboptimal nutrition and hydration in people with dementia include:

- a) Loss of appetite
- b) Loss of taste and smell
- c) Forgetting to eat and drink
- d) All of the above

3. Which of the following is not a cause of poor appetite in people with Alzheimer's disease?

- a) Dementia-related brain atrophy
- b) Depression
- c) Inability to remain seated
- d) Side effects of medicines

4. Which of the following is a sign of dysphagia?

- a) 'Wet voice' while eating or drinking
- b) Reduced hand-mouth coordination
- c) Distractibility
- d) 'Walking with a purpose' behaviours

5. What is apraxia?

- a) Impaired swallowing reflex
- b) Increased risk of developing aspiration pneumonia
- c) Loss of ability to carry out motor movement
- d) Loss of taste and smell

6. Which of these behaviours associated with dementia can affect people's eating habits?

- a) Delusional thinking
- b) Mood changes
- c) Aggressive behaviours
- d) All of the above

7. Which of these is not an intervention to improve food and drink intake in people with dementia?

- a) Adding extra flavour to food
- b) Serving unfamiliar foods
- c) Creating a homely or family mealtime experience
- d) Playing familiar background music at mealtimes

8. If a person is losing weight unintentionally and has a reduced appetite, the National Institute for Health and Care Excellence recommends as a first-line measure:

- a) A 'food first' approach whereby food is fortified to contain more energy (calories), protein and nutrients
- b) Avoiding adding calorie-rich foods to snacks
- c) Creating aromas to stimulate appetite
- d) Prescribing oral nutritional supplements

9. Who should people with suspected dysphagia be referred to for advice on safe and appropriate food texture modification?

- a) Ear nose and throat surgeon
- b) Speech and language therapist
- c) Audiologist
- d) Neurologist

10. Which of these statements about oral nutritional supplements is incorrect?

- a) The supplements are classified as foods for special medical purposes
- b) The supplements help manage disease-related malnutrition
- c) The supplements should be used in conjunction with food fortification strategies
- d) The supplements should replace food

How to complete this assessment

This multiple-choice quiz will help you test your knowledge. It comprises ten multiple choice questions broadly linked to the previous article. There is one correct answer to each question.

You can read the article before answering the questions or attempt the questions first, then read the article and see if you would answer them differently.

You may want to write a reflective account. Visit [rcni.com/reflective-account](https://www.rcni.com/reflective-account)

Go online to complete this multiple-choice quiz and you can save it to your RCNi portfolio to help meet your revalidation requirements. Go to [rcni.com/cpd/test-your-knowledge](https://www.rcni.com/cpd/test-your-knowledge)

This multiple-choice quiz was compiled by Ruth Williams

The answers to this quiz are:

1 b 2 d 3 c 4 a 5 c 6 d 7 b 8 a 9 b 10 d

This activity has taken me ___ minutes/hours to complete. Now that I have read this article and completed this assessment, I think my knowledge is:

Excellent Good Satisfactory Unsatisfactory Poor

As a result of this I intend to: _____

