



## Review

# Interventions on mealtime difficulties in older adults with dementia: A systematic review

Wen Liu<sup>\*</sup>, Jooyoung Cheon, Sue A. Thomas

University of Maryland School of Nursing, USA

## ARTICLE INFO

### Article history:

Received 29 September 2012

Received in revised form 12 December 2012

Accepted 28 December 2012

### Keywords:

Dementia  
Interventions  
Mealtime difficulties  
Older adults  
Study quality  
Systematic review

## ABSTRACT

**Objectives:** To evaluate the effects of interventions on mealtime difficulties in older adults with dementia.

**Design:** A systematic review using the *Preferred Reporting Items for Systematic Reviews and Meta-Analyses: the PRISMA Statement*.

**Data sources:** Pubmed, Medline (OVID), CINAHL (EBSCOHost), EBM Reviews (OVID) and PsychINFO (OVID) were searched between January 2004 and September 2012 by using keywords as dementia, Alzheimer, feed(ing), eat(ing), mealtime(s), oral intake, nutrition, intervention, experimental, quasi-experimental and any matched terms. Other sources included Google Scholar and relevant bibliographies.

**Review methods:** Eligibility criteria were established by defining the population, intervention, comparator, outcomes, timing and setting of interest. Studies were reviewed by title and abstract screening, and full-text assessing for eligibility. Data were abstracted from eligible studies using a self-made structured tool. Eligible studies were classified by intervention, assessed for quality using the Quality Assessment Tool for Quantitative Studies, and graded for evidence using the Grading of Recommendations, Assessment, Development and Evaluation Working Group criteria.

**Results:** Twenty-two intervention studies (9 RCTs), including a total of 2082 older adults with dementia and 95 professionals from more than 85 long-term care facilities, were selected, and classified into five types: nutritional supplements, training/education programs, environment/routine modification, feeding assistance and mixed interventions. Eight studies were strong, eleven moderate and three weak in quality. Limitations of body of research included lack of randomization and/or control group, small sample size without power analysis, lack of theory-based interventions and blinding, inadequate statistical analysis and plausible confounding bias. “Nutritional supplements” showed moderate evidence to increase food intake, body weight and BMI. “Training/education programs” demonstrated moderate evidence to increase eating time and decrease feeding difficulty. Both “training/education programs” and “feeding assistance” were insufficient to increase food intake. “Environment/routine modification” indicated low evidence to increase food intake, and insufficient to decrease agitation. Evidence was sparse on nutritional status, eating ability, behavior disturbance, behavioral and cognitive function, or level of dependence.

**Conclusions:** This review provides updated evidence for clinical practice and points out priorities for nursing research. Current evidence is based on a body of research with moderate quality and existing limitations, and needs to be further explored with more rigorous studies.

© 2013 Elsevier Ltd. All rights reserved.

<sup>\*</sup> Corresponding author at: University of Maryland School of Nursing, 655 West Lombard Street, Suite 404, Baltimore, MD 21201, USA.  
Tel.: +1 410 706 5760.

E-mail addresses: [wen.liu@umaryland.edu](mailto:wen.liu@umaryland.edu), [liuwenring18@gmail.com](mailto:liuwenring18@gmail.com) (W. Liu).

## What is already known about the topic?

- Interventions on mealtime difficulties in dementia should pay attention to cognitive impairment, nutritional intake, training of caregivers, modification of environment, and quality of interaction.
- There is a lack of statistical power analysis, standardized interventions and outcomes, and attention to confounding bias in intervention studies on mealtime difficulties in dementia.
- There is moderate evidence for high-calorie supplements and low evidence for appetite stimulants, assisted feeding and modified food in improving weight in individuals with dementia.

## What this paper adds

- “Nutritional supplements” showed moderate evidence to increase food intake, body weight and BMI.
- “Training/education programs” demonstrated moderate evidence to increase eating time and decrease feeding difficulty.
- “Environment/routine modification” indicated low evidence to increase food intake, and insufficient to decrease agitation.

## 1. Introduction

### 1.1. Mealtime difficulties in dementia

The number of older adults with dementia has increased. Around 6–10% of the elderly aged 65 years and over has various forms of dementia, with 60% having Alzheimer's disease (AD) in Europe (Bermejo-Pareja et al., 2008; Berr et al., 2005; Ferri et al., 2005). The number of older adults with AD in the United States is 4.5 million and is estimated to increase three to four-fold within the next 40 years, resulting in more than 10 million by 2050 (Hopper et al., 2007). Individuals with dementia have a progressive decline in cognitive and behavioral functions, and finally lose their abilities to independently function physically.

Due to mental and cognitive impairments, physical disabilities and psychological factors (e.g., depression and agitation), individuals with dementia may have mealtime difficulties. Individuals with eating or feeding difficulties demonstrate partial or complete inability to initiate or maintain attention to feeding tasks, get food into the mouth, chew or swallow, or other mealtime behavioral problems, such as wandering, pacing, refusal behavior, apathy or indifference (Chang and Roberts, 2008). Around 50% of patients lose their self-feeding ability within eight years after the onset of dementia (Volicer, 1987).

Multiple issues, including mealtime pattern, dyad interaction, mealtime environment, cognitive and physical impairment, and aversive feeding behaviors were considered as attributes of mealtime difficulties in individuals with dementia (Aselage and Amella, 2010; Aselage et al., 2011). Mealtime difficulties was further theoretically referred to as aversive eating, feeding and meal behaviors encompassing physiological factors, resistive behaviors and social interaction in dementia (Aselage, 2010). By

summarizing current literature from a multifaceted perspective, mealtime difficulties in individuals with dementia could indicate any difficulty or problem occurred during eating, feeding or mealtime associated with physical, cognitive, behavioral, social, environmental and cultural factors.

Individuals with dementia who have mealtime difficulties for a long period of time begin to experience adverse outcomes, such as inadequate food intake, unintentional weight loss, aspiration, pulmonary complications, malnutrition and dehydration, which may detrimentally affect their physical health and decrease quality of life (Watson and Deary, 1997; Chang and Roberts, 2008). Effective interventions on mealtime difficulties in older adults with dementia provided by caregivers (e.g., family members, nursing staff) are fundamental to decrease the occurrence of negative outcomes and increase quality of individual life. Amella et al. (2007) suggested that effective interventions on mealtime difficulties in dementia should focus on cognitive impairment, nutritional intake, training of caregivers, modification of environment and quality of interaction.

### 1.2. Rationale and objectives

This systematic review is conducted to provide evidence in interventions on mealtime difficulties in older adults with dementia, and to identify remaining gaps and point out directions for future research and clinical practice. This topic was previously reviewed with studies available before 1993 (Watson and Deary, 1997) and between 1993 and 2003 (Watson and Green, 2006), respectively. The body of literature has grown up from only a few single-case studies before 1993 to 13 intervention studies (1 RCT) by 2003, while further studies on various, effective and standardized interventions with appropriate statistics and adequate power analysis were still needed.

Several reviews with slightly different focuses have also been reported recently. Aselage et al. (2011) explored mealtime difficulties from a multifaceted view and advocated the integration of Clinical Practice Guidelines in interventions to alleviate feeding difficulty. Cole's (2012) included 12 studies on nutritional intake optimization and identified nutritional supplements and staff training as two main intervention types. Hanson et al. (2011) demonstrated moderate evidence for high-calorie supplements and low evidence for appetite stimulants, assisted feeding and modified food in improving weight in individuals with dementia. These reviews either did not wholly focus on interventions, or failed to access complete retrieval of intervention studies available, or did not grade evidence on various behavioral or nutritional outcomes.

In order to thoroughly identify eligible studies and keep the searching within focus, the PICOTS framework was applied to address the research question and establish eligibility criteria (Table 1). The population of interest was adults aged 65 years or above with dementia of any type and any stage. The outcomes of interest were various, including eating or feeding behaviors and any subsequent nutritional outcomes, which ensured the variety of interventions retrieved. Intervention of interest and length of follow-up

Download English Version:

<https://daneshyari.com/en/article/1076571>

Download Persian Version:

<https://daneshyari.com/article/1076571>

[Daneshyari.com](https://daneshyari.com)