ORAL NUTRITIONAL SUPPLEMENTS: ARE THEY AN EFFECTIVE INTERVENTION IN PEOPLE LIVING WITH DEMENTIA?

Oral nutritional supplements (ONS) are still being touted as the saviour of malnutrition by leading UK charities who consistently publish positive research findings when pooling data for all patient groups. But what about sub groups of the population including those living with dementia? What does the evidence suggest about the use of ONS and can ONS improve outcomes such as increased weight and body mass index (BMI) and, therefore, prevent malnutrition?

Like most things, the answer is not as simple as yes or no and for people with dementia, there are some important considerations to take into account which this article will attempt to emphasise.

EFFECTIVENESS

Systematic reviews suggest that weight gain is variable when using ONS,1 while meta-analyses suggest a statistically significant improvement in weight and BMI.2 To be effective, prescribed ONS must be consumed. Compliance of ONS in all populations suggests 78% compliance (range 37-100%), but is negatively associated with age.4 A Cochrane review of ONS compliance in those >65 years of age found mean compliance of 66% (range 50-85%).5 While specifically in dementia, compliance rates range from 8.5% to 90% with that 8.5% coming from a one-year long-term follow-up study, indicating long-term ONS use is unlikely to be effective due to compliance. Finally, when looking at compliance, one cannot overlook the reporting or lack of reporting of dropouts. For example, one study including mainly people with mild dementia had a dropout rate of 54% (65 participants) for a 24-week ONS intervention with ‘distaste’ sighted as the main reason for drop out.6

Potential reporting bias in ONS research trails has been questioned3 and considering positive research is more likely to be published and the effectiveness of ONS in dementia is still open for debate, there are many factors to consider when deciding on ONS as a treatment option.

PROBLEMS WITH SCREENING AND ASSESSING THE USE OF ONS

Often, the main indicator for offering or prescribing ONS is poor oral intake and weight loss.1 Although poor oral intake can be assessed from food record charts and weight loss, or risk of malnutrition can be assessed using the malnutrition universal screening tool (MUST), or similar screening tools, the actual reasons why weight is lost or food is not consumed is not fully evaluated. Rarely is an assessment made on the individual’s mealtime abilities or what level of assistance they require to eat their food,7 even though
mealtime abilities will affect oral intake and the effectiveness of nutrition interventions. If the reason for the individual’s weight loss is related to their ability to feed themselves, then providing additional ONS without supporting their eating and drinking abilities is unlikely to lead to an increased intake.

The MUST and all literature associated with its use strongly advocate the use of ONS based on BMI and weight loss; however, an assessment of the individual’s eating abilities and a clear idea of what assistance the individual requires would surely help target assistance and screen those individuals who would gain most from ONS as an effective intervention. For further information on assessing mealtime abilities in people with dementia, please refer to my previous NHD article published in June 2016 for additional information.

A further drawback with using weight loss and BMI as the main indicator for prescribing ONS is evidence suggesting people with dementia and with a low BMI (<20kg/m²) are found to decrease their oral intake when prescribed ONS. Additionally, these individuals continue to have decreased habitual intake even when ONS are ceased. Furthermore, weight loss in these individuals with a low BMI and later stage dementia can be seen despite consuming all prescribed ONS.

Disappointingly, this can be commonly seen in dementia care and was something I witnessed many times in nursing home residents whose needs were not fully supported at mealtimes. Careful prescription of ONS in people with dementia and a low BMI (<20kg/m²) is warranted. If ONS affects oral intake at subsequent meals then this may indicate that the individual is less likely to return to pre-ONS oral intake levels once ONS is removed and, therefore, overall intake will decrease. Recent guidelines published by ESPEN recommend the use of the Mini Nutritional Assessment (MNA) either in its full or short form (MNA-SF) to assess malnutrition in older people, while a previous ESPEN consensus statement recommends BMI <20 kg/m² for subjects <70 years of age and BMI <22 kg/m² for subjects 70 years and older.

When working with the older people with dementia population, one should strongly consider the most appropriate assessment methods used. It is worth noting that people with dementia who have a low BMI are more likely to have later stage dementia and are also more likely to have reduced mealtime abilities.

“Screening for malnutrition is important, but if it is at the detriment of further and more person-centred assessments then its value is lost.”

**INCREASING THE CONSUMPTION AND EFFECTIVENESS OF ONS IN DEMENTIA**

Some potential ways to increase the efficacy of ONS is provided in Table 1, although, as with all general advice, there are some important points to consider for individuals. In general, people with dementia are less likely to suffer a decrease in appetite if ONS are provided in small regular intervals. However, a reduction in intake may still be observed. Offering ONS between meals is often used and recommended, but it is debatable as to what the most desirable and effective between-mealtimes is. If lunch is the main meal of the day, as it often is in care settings, close monitoring of lunch intake is required to ensure that oral food intake is not decreased from ONS use prior to this.

Importantly, when comparing meal intakes for both ONS and oral snacks as between-meal interventions (twice daily), a decrease in intake at meals was seen. However, this was only significant in those receiving ONS. Similarly, the percentage of a meal eaten decreased when both a 200ml ONS was provided between meals.
and when a 60ml ONS was provided four times per day. Nevertheless, the decreased intake was significantly more when the 200ml volume was provided.2

Providing assistance with eating and drinking is seen as a labour intensive caring task and in instances of inadequate staffing levels, ONS can become a meal replacement rather than a supplement to the diet.1 Be wary of settings where staff time and staffing levels are reduced as people with dementia need increased assistance at mealtimes due to reduced mealtime abilities.7

Table 1 highlights two potential monitoring techniques to determine in whom the ONS intervention will be most effective with regards to ONS impacting on oral food intake. One monitoring intervention involves a two-day trial of ONS and detailed recording of oral food intake.7 Secondly, in those who require ongoing use of ONS, then a three-week on and three-week off rotation system can be employed to effect.9

**NON-DEMENTIA SPECIFIC ONS PRACTICAL TIPS**

Considering the effectiveness and compliance of ONS in all patient groups rather than in only dementia groups, we can see some similar themes emerging as highlighted in Table 2. Interestingly, the review from which Table 2 was compiled found no significant differences in set time delivery, medication rounds or providing

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Compiled from references 1, 7, 9, 2. See text for specific issues with these approaches. Compiled from reference 4.
ONS ad-libitum on consumption of ONS, or mean energy intake when looking at all patient groups. Looking at mean results obtained from groups are not always generalisable to subgroups or individuals. Some research that focuses on dementia does highlight the impact of timing on compliance and effect on oral nutrition intake, although conflicted results are still seen. Many of these tips for increasing effectiveness rely on the staff providing additional assistance in some form and probably the benefits from this type of administration of ONS in the research is due to increased staff assistance at this time.

CONCLUSION

The research discussed indicates more staff availability to provide assistance and monitoring of ONS can increase the effectiveness of ONS consumption and weight gain. In the cash strapped world of older people’s care, however, more staff availability is often not a viable choice. Certainly, if the correct level of assistance is provided, then providing snacks or oral food may be just as or more effective and cost less than ONS. So are ONS an effective intervention in people living with dementia?

Temporary use of ONS can be both beneficial and detrimental to short-term nutritional intake and body weight, but is unlikely to improve long-term weight or functional outcomes. There are several practical ways to increase compliance and consumption of ONS (Tables 1 and 2), but they all require additional staff resources. Additionally, current screening tools (e.g. MUST) used in the assessment for administration or prescription of ONS may not be specific enough to assess the nutritional complexities in people with dementia.

Those identified as at risk of malnutrition by low BMI (<20kg/m²) and/or with later stage dementia may not respond to ONS as an effective intervention. ONS may cause a decrease in oral intake which is not recovered when ONS is stopped, but why ONS creates such dependence is unknown. For someone living with dementia where mealtimes will be one of their few opportunities for social interactions, a decrease in meal intake is unwanted from both a nutritional and quality-of-life aspect. Certainly, research suggests the psychosocial impact of mealtimes is a key factor in improving nutritional intake in people with dementia.

Finally, there is a need to assess the precursors to decreased nutritional intake and weight loss, such as reduced mealtime abilities and then intervene at this stage.

Nutrition and dietetic interventions for people with dementia have been suggested to focus on strategies to improve mealtime abilities and eating environments to promote oral intake. The family members of people with dementia prefer oral food being offered and although research has failed to ask people living with dementia what they think, one would imagine they would agree.

References

5 Milne A et al. Protein and energy supplementation in elderly people at risk from malnutrition ( Review ). Cochrane Libr 2-4 (2009)