

## The influence of nutritional supplement drinks on oral intake in cognitively impaired older adults

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Oral Nutritional Supplement (ONS) drinks are commonly given to elderly people who are malnourished or at risk of malnutrition. However, eating a good diet at sociable meal times has positive benefits; not only positively impacting on weight but also improving quality of life and physical performance<sup>(1)</sup>. Therefore, consumption of these supplement drinks should not detract from the physical and psychosocial benefits of meal times.

Consumption of oral nutritional supplement (ONS) drinks has previously been shown not to significantly influence consumption of meals in cognitively intact older adults<sup>(2)</sup>. However, further investigation is required in cognitively impaired older adults to ensure provision of ONS drinks increase the total calorie and nutrient intake, but not at the expense of a normal diet.

Following ethical approval, hospitalised older adults ( $n = 6$ ) and nursing home residents ( $n = 14$ ) with cognitive impairment were enrolled in this study. Participants had Mini-Mental State Examination (MMSE) scores of  $11 \pm 7.5$  (range 0–21).

Each participant was provided with three ONS drinks on alternate days over a one week period. The study evaluated oral intake. This was assessed by using nursing and care staff documentation where the quartile method documented the proportion of different components of the meals consumed. For example, all of meat, half of potatoes, quarter of vegetables and all of pudding. Comparisons were made between days that participants were given ONS drinks and days that they were not.

The amount consumed of the meals and ONS drinks was converted into energy (kcal). Information on kcal per meal was calculated based on the typical kcal for the average portion size of each of the meal components. Information on kcal in ONS drinks was obtained from their nutritional information.

When considering the consumption of meals the provision of ONS drinks did not significantly affect the oral intake of meals at meal times both at a group and on an individual level ( $P = 0.107$  to  $0.968$ ). However, total calorie intake was significantly greater on days when ONS drinks were provided ( $P < 0.0001$ ) (Table). This indicates that oral nutritional supplements do have positive benefits in increasing the total calorie consumption within this group of older adults without compromising a normal dietary intake.

	Number of days	Mean kcal	St Dev	SE Mean
Total kcal on days ONS given	25	1539	655	131
Total kcal on days without ONS	25	1097	468	94

Patients prescribed ONS had significantly lower Mini Nutritional Assessment scores (MNA-Short Form) (3.3 vs 9.5,  $P < 0.0001$ ) scores. However, these patients were excluded from this analysis as it would have been unethical to remove their ONS drinks. Therefore, this study may have underestimated the impact ONS drinks have on oral intake within this more ‘at risk’ group.

1. Nijs K, de Graaf C, Kok FJ & van Staveren WA (2006) *BMJ* **332**, 1180–1184.
2. Allen VJ, Withers C, Methven L & Gosney MA (2011) *J Nutr Health Aging* **15**(4), 322.