Enriching food to boost inpatient nutrition status

Enriching hospital food with energy or protein can improve nutritional status in older people in hospital, according to an analysis summarised by a National Institute for Health Research (NIHR) Signal.

The review looked at 10 international studies investigating energy- or protein-based fortification or supplementation in 546 adults aged over 60 years. Two studies were from the UK. The research settings were mostly general hospital or care wards or rehabilitation centres for older people. Eight studies compared enriched food with usual nutrition and two compared it with oral nutritional supplements.

Oral nutrition supplement drinks are commonly used in practice, but patients often dislike their taste, texture, and effects on the digestive system. This review aimed to evaluate whether enriching the diet by providing meals high in energy and protein (fortification) or providing additional snacks (supplementation) could increase energy and protein intake among older people.

Older people are at risk of malnutrition when admitted to hospital, which can have long-lasting consequences. The 2017 NIHR review Comprehensive Care (NIHR, 2017) reported that after hospital admission those over 70 have slow functional recovery. Poor nutrition is also associated with complications such as pressure ulcers and infections.

The National Institute for Health and Care Excellence guideline on nutritional support (NICE, 2017) recommends the following methods for oral nutrition support in people with or at risk of malnutrition:

- Fortified food with protein, carbohydrate and/or fat, plus minerals and vitamins;
- Snacks;
- Oral nutritional supplements;
- Altered meal patterns;
- The provision of dietary advice.

The reviewers wanted to highlight the need for hospital staff to be vigilant around nutrition and other factors that contribute to malnourishment, such as poor appetite, unfamiliar diets, unpalatable supplements and increasing energy needs.

They found that a meta-analysis was not feasible because of variations in study design and outcome measures. This means that the overall effect and strength of the evidence is less clear. The main findings are summarised in Box 1.

Implications for practice

Providing energy or protein-fortified foods to older people in hospital seems a practical method to increase their nutritional intake.

The study mix makes it difficult to get a good indication of the best approach, but improvements seem consistent across all strategies. Cost-effectiveness data was also limited, but it is expected that meal enrichment would be cheaper than supplement drinks.

Flexibility in meal provision, and ensuring older people have necessary support at mealtimes, may also help.

To read the full Signal report go to: Bit.ly/NIHEREnriched

References


Box 1. What did the review find?

- Three studies comparing energy-based enrichment with usual nutrition showed the enrichment strategies increased energy intake by 250–450 calories per day. This was mostly achieved by adding dairy products or oils.
- Three studies comparing protein enrichment with usual nutrition all showed the enrichment strategies to increase protein intake by 12-40g a day. Examples were protein-enriched yoghurt or bread.
- Two studies assessing both protein and energy enrichment showed an increased intake of both: one study by about 700 calories and 16g of protein, and the other by five calories and 0.2g protein per kilogram body weight.
- Two studies compared food enrichment with traditional oral nutritional supplement drinks and showed inconsistent results. One study found no difference in protein or energy intake between groups. The other reported that supplement drinks increased energy and protein more than food enrichment. However, this study was available as a conference abstract only, so the findings should be treated with some caution.
- Four studies reported on the acceptability of enriched foods. Two indicated little difference in taste preference between enriched foods and control products, while two found increased consumption of enriched foods. Two cost-effectiveness studies suggested enriched foods may have a lower cost-per-calorie-consumed than oral nutritional supplement drinks.