

The Positive Impact of a Dietitian Improving Outcomes in Frail Elderly Patients in the Community



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Due to modern science and healthcare people are living longer than ever before.¹ The number of adults aged 65 years or older continues to increase faster than the rest of the population. Between 2008 and 2018, the number of people aged 64-84 years in the UK increased by 23% to 10.6 million.² Approximately 40% of adults aged 65 or older have at least one chronic condition.³ Despite the advances in improving life expectancy, there are concerns this will increase the strain on the NHS and social care.⁴ However, adopting a healthier lifestyle in older age can reduce disease burden.⁵

Frailty occurs as a consequence of the ageing process, which increases a person's vulnerability to adverse health outcomes.⁶ In addition, advanced ageing is associated with sarcopenia which is *"a progressive and generalised skeletal muscle disorder that is associated with increased likelihood of adverse outcomes including falls, physical disability, and mortality"*.⁷ Muscle atrophy as a result of the ageing process can potentially be reduced by providing adequate nutrition support and exercise.^{8, 9, 10}

In January 2015, a dietitian was funded to provide a dietetic service to patients under the Frail Elderly Pathway Team at Airedale NHS Foundation Trust.¹¹ The aim of the team is to prevent readmissions and reduce overall length of stay. The aim of this article is to highlight the role of the Frail Elderly Pathway (FEP) Dietitian in assessing, treating, reviewing, and managing two community frail patients with complex medical, nutritional, and social needs.

Patient 1 - Mr X

Background: Mr X is an 84-year-old white male with known chronic obstructive pulmonary disease (COPD), chronic pain and frailty. He was initially admitted and treated for an exacerbation of his COPD and was referred to the FEP Dietitian for nutritional assessment and support.

Following hospital discharge, Mr X started to experience a number of falls inside and outside his house.

His dietary intake was deteriorating, and he had lost significant amount of weight. His frequent falls, chronic pain, weight loss and reduced mobility, had a significant impact on his mood and quality of life.

Social history revealed that Mr X lived alone and received some help from his grandson. Carers did provide some support for a short period of time when he was initially discharged from hospital. However, this was eventually discontinued. Unfortunately, Mr X's reduced mobility significantly impaired his activities of daily living and he was unable to prepare meals and wash up. Mr X smoked ten cigarettes a day and doesn't drink alcohol.

Interventions: On the initial home visit, Mr X looked extremely frail and anxious. His overall food intake was very poor, and he was struggling to eat adequately throughout the day. Mr X was managing to drink a 125 ml high energy, high protein, ready-to-drink, milkshake style oral nutritional supplement (ONS) twice a day (bd) most days (600 kcals and 36 g protein/day), which was initially commenced during his hospital admission.

On examination, Mr X weighed 59.8 kg (body mass index [BMI] 19.1 kg/m²). Approximately six months ago Mr X had weighed 65.8 kg (BMI 21.2 kg/m²) - a 9% weight loss. Mr X's Malnutrition Universal Screening Tool ('MUST') score was 4. Nutrition support advice was discussed and Mr X was encouraged to consume high energy and high protein foods and drinks and continue with the high energy, high protein ONS (125 mls bd). Food fortification advice was also discussed and dietary information leaflets were provided. Mr X was also advised to stop smoking and seek help by contacting his GP or pharmacist. During the home visit, Mr X experienced a minor fall. Due to the fall further anthropometric measurements (handgrip strength and calf circumference) were not obtained. Concerns were identified regarding Mr X's safety and wellbeing and the dietitian raised these concerns with his GP, the community matron and community nurse. Following this a pendant safety alarm was quickly arranged for Mr X, along with regular visits from community matron.

A follow-up visit was arranged three months after the initial visit. Mr X appeared less anxious. He remained frail but there were some small improvements in his oral intake and mobility. He was able to prepare more meals and, consequently, his dietary intake was improving. He was consuming more higher energy and higher protein foods, which was advised by the dietitian at the previous visit.

Mr X was unable to be weighed. However, a handgrip strength measurement was taken - 13.6 kg (non-dominant hand). A right calf circumference measurement

was also recorded (33 cm). Calf measurements below 31 cm have been suggested as an indicator of possible functional impairment.¹² The dietitian identified there was evidence of poor compliance with his pain management medication. Therefore the importance of complying with his medication was reinforced. Aspects of his self-care were also deteriorating. The dietitian noticed his toenails were very long so she discussed this with the community nurse who arranged to cut them. The dietitian also liaised with his GP to review his medication due to compliance issues. The previous dietary advice was reinforced, and Mr X was encouraged to continue with a high energy and high protein diet, along food fortification and the high energy, high protein ONS (125 mls bd).

Results: A further follow-up appointment was arranged three months after the initial follow-up appointment. Mr X looked and felt much better. His weight had increased from 59.8 kg to 68.9 kg (BMI 22.0 kg/m²), resulting in a weight gain of 9.1 kg over six months. His 'MUST' score was now zero. His handgrip strength measurement increased from 13.6 kg to 22.7 kg. However, his calf circumference measurement remained the same. Mr X's dietary intake had improved significantly. He was now consuming three regular meals a day, consisting mainly of higher energy and higher protein foods and drinks. He also continued to drink the high energy, high protein ONS (125 mls bd). His pain improved due to taking the correct dose of paracetamol, and as a consequence he was able to go out on his scooter a few times a week. Mr X also reported he felt more confidence with his mobility. Mr X also mentioned he had not experienced any falls over the last few months. In addition, Mr X reduced his smoking from ten to six cigarettes a day.

Mr X appreciated the dietitian's input and care that he received. Qualitative feedback obtained from the Mr X revealed that the dietetic input was very useful and helped improve his quality of life. Comments included:

"The dietitian has made a big difference and encouraged me to eat regular meals and I'm now eating lunch that I wasn't before."; "The dietitian arranged for a pendant alarm for me which has been so useful."; and "I feel confident now and I am going out on my scooter and I feel happy."

Patient 2: Mr Y

Mr Y is a 61-year-old South Asian male with progressive dementia and type 2 diabetes (T2DM). He was referred to the FEP Dietitian for nutritional assessment and support due to significant weight loss and issues with poor dietary intake. Mr Y suffered with frequent urinary tract infections (UTI), poor cognition, and increased confusion. He regularly wandered around his house during the night. Mr Y was looked after by his daughter who lived with him.

Interventions: On the initial home visit, Mr Y weighed 51.8 kg (BMI 19 kg/m²). Approximately six months prior to the initial visit Mr Y had weighed 58 kg (BMI 21.3 kg/m²) - a significant 6.2 kg (10.6%) weight loss over six months. His handgrip strength was 21.0 kg (non-dominant hand) and right calf circumference was 30 cm. His daughter was concerned about this weight loss and she felt his dementia was worsening and he was wandering more. Mr Y often refused to eat meals and tended to ask for sweet or savoury snacks instead. His daughter had concerns about the impact of these foods on his glycaemic control.

The dietitian advised the daughter to offer Mr Y foods and drinks high in energy and protein throughout the day. Food fortification advice was also discussed, and dietary information leaflets were provided to help Mr Y's daughter implement the advice. A powder-based ONS was trialled, which Mr Y enjoyed, and this was prescribed twice a day (bd), made with full fat milk, and provided 760 kcals and 31 g protein/day. The dietitian reassured that Mr Y could enjoy some sweet and savoury snacks during the day. Mr Y's diabetes was well controlled and at that point nutrition support was more important to prevent further weight and muscle loss.

Mr Y could not speak or understand English. Fortunately, the dietitian could speak Hindi and this helped in building a good rapport with Mr Y and his daughter. During the seven-month intervention period, Mr Y was seen four times at home by the dietitian, along with regular telephone conversations with his daughter.

Results: At the end of the dietetic intervention, Mr Y weighed 65.6 kg (BMI of 24.1 kg/m²) - a 13.8 kg weight gain. Mr Y's handgrip strength decreased from 21 kg to 14 kg. However, his calf circumference increased from 30 cm to 33 cm. Mr Y's dietary intake improved and he was following the advice from the dietitian by consuming more higher energy and higher protein foods and drinks. There was also evidence of food fortification advice being implemented. For example, skimmed milk powder was being added into foods and drinks.

Qualitative feedback obtained from Mr Y's daughter also revealed some very positive feedback. Comments included:

"Having input from a dietitian made a lot of difference, it helped me to make plans and change the bad days my father was having into better days."; "Seeing my father gain weight made me feel happy and made me feel helpful as without the dietitian's input we didn't know what to do."; "We also found a positive difference in his mood and he also looked much better within himself."

Discussion

Both case studies highlight how physiological, psychological, socioeconomic factors can significantly impact an individual's nutritional status, degree of frailty, and quality of life. Early nutritional assessment, intervention and monitoring is essential, especially in older adults living in the community.¹³ Both patients benefited from following the specialist advice of a dietitian, which resulted in an improvement to their energy and protein intake. Following a high energy and protein diet, along with food fortification advice and, if necessary, using oral nutritional supplements has been previously recommended for managing adult malnutrition in the community, including COPD.¹⁴

Anthropometry measurements were used in both patients to help assess and monitor nutritional status. Calf circumference measurements were recorded in both individuals, which has been shown to help assess nutritional and functional status, with some limitations.¹⁵ Likewise, handgrip strength was also measured to help assess voluntary muscle strength and function. Mr X's handgrip strength significantly improved. However, Mr Y's measurement's

declined due to difficulties using the handgrip dynamometer, likely due to progressive cognitive impairment. Limitations of using handgrip strength have been previously acknowledged.¹⁶

Mr X felt much more confident after having pendant alarm, this was a good example of multidisciplinary working in community. In addition, the dietitian also raised concerns about aspects of Mr X's self-care, his compliance with medication and smoking status. These are all good examples of a community dietitian 'Making Every Contact Count'.¹⁷ Mr X was also experiencing falls. Dietitians can help contribute to reducing falls risk by raising the awareness of the importance of nutrition and hydration.¹⁸

Mr Y was diagnosed with dementia in his early 50s and this progressed relatively quickly. The link between dementia and suboptimal nutritional intake is well established.¹⁹ Another reason for Mr Y's weight loss could be due to excessive energy expenditure due to wandering. Strategies to improve dietary intake in patients with dementia who tend to wander have been suggested.²⁰

During Mr Y's dietary interventions, the dietitian also acknowledged the cultural issues surrounding dementia. There is possibly a reduced awareness and stigma from the south Asian community accessing dementia care.²¹ It has been highlighted that more research is required, especially in designing culturally appropriate diagnostic dementia tools for the UK South Asian population.²¹

Language barriers might have impacted Mr Y accessing adequate support in the early stage of his dementia. In addition, the progression of his dementia might have led to social isolation for him and his daughter. The dietitian was able to speak Hindi, and his daughter appreciated the cultural understanding in providing support.

Learning points:

- Community dietitians can have an extended role in assessing and identifying patient related issues beyond dietetics and making sure 'every contact counts'
- Anthropometry can be successfully used in community patients, but an awareness of their limitations needs to be considered
- It is important to recognise and understand the cultural issues for patients with dementia amongst ethnic minority groups. This might require additional support, education and awareness when providing care to patients and their carers.

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* Names of patients have been changed to protect patient confidentiality.

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