

Nutritional advice for community patients: insights from a panel discussion

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Patients who consult practice nurses at their local GP surgery often have health risks that could be reduced by making even small changes to diet and lifestyle (Spiller et al, 2007; Gatineau et al, 2014; Hungin et al, 2016; Public Health England (PHE), 2016). Encouraging patients to make such changes will lead to improved health, with the potential benefit of reducing their health-care costs. Nutrition, however, is a minor subject in the education of GPs, practice nurses, and community nurses, and this problem is compounded by the lack of availability of dietitians and nutritionists linked to GP surgeries (Buttriss, 1997; Madigan et al,

2007; Leslie and Thomas, 2009; Crowley et al, 2015; Guess et al, 2015; Kris-Etherton et al, 2015). The importance of more nutrition education in medical schools has also been highlighted by the UK Need for Nutrition Education/Innovation Programme (NNEdPro)—an innovation and evaluation platform for health professionals supported by the British Dietetic Association (BDA) (www.nnedpro.org.uk).

To address this situation, a panel of experts convened to discuss four case studies, specifically selected because they represented patients often encountered in community health care and who had problems that could be helped by general nutritional and lifestyle advice. The panel comprised a GP, nurse practitioner, practice nurse, three nutritionists, a dietitian, microbiologist, an education trainer for an NHS community health-care team, and a university lecturer in advanced clinical practice. Each shared their insights on the basis of their professional expertise and the experience of similar patients.

Implicit to each case study was the understanding that the GP would already have seen the patient, given a clinical diagnosis, and started medical treatment. The purpose of the panel discussion was to produce some practical nutrition and lifestyle tips that would be useful for nurses working in the community who might encounter such patients, often on a regular basis. Nevertheless, patients should be advised to consult registered nutritionists or dietitians, particularly if major dietary changes are being considered.

Case study 1: irritable bowel syndrome

The patient in this case study is a 38-year-old, single, professional woman, with a body mass index (BMI) of 26 and on the contraceptive pill. She suffered from intermittent irritable bowel syndrome (IBS) (GP diagnosed) for the past 5 years, which seemed to start after a bout of food poisoning. She had

ABSTRACT

This article describes the conclusions of an expert panel that discussed four case studies; these were examples of patients typically encountered by nurses working in the community. The panel considered the nutritional and lifestyle advice that could be given by nurses relating to conditions such as irritable bowel syndrome (IBS), depression, chronic fatigue syndrome, vulnerability to common infections, elderly care, recurrent urinary tract infection, antibiotic use, and risk of type 2 diabetes. A general conclusion was the importance of motivational interviewing techniques in achieving full understanding of patients' concerns and to determine the best health strategy. As well as specific guidance appropriate for each disorder, a range of information sources for both health professionals and patients are listed in the paper. The panel noted that, although general nutritional advice can be given by nurses working at GP surgeries and in the community, patients should always be referred to registered dietitians or nutritionists if significant dietary changes are considered.

KEY WORDS

- ♦ irritable bowel syndrome ♦ depression ♦ diabetes ♦ nutrition
- ♦ elderly care

Table 1. Nutritional insights

Type of fibre	Description	Food source
Soluble fibre	Digested in the gut, helps soften stools and may benefit cholesterol reduction and constipation	Oats, barley, rye, fruit, carrots, potatoes, golden linseeds
Insoluble fibre	Not broken down in the gut and can help with constipation	Wholemeal bread, wheat bran, nuts, and some seeds
Resistant starch	Resists digestion in the small intestine to reach the colon intact, where it can be fermented by the bacteria there	Cooked and cooled starchy foods such as potatoes and pasta, unripe bananas, and some wholegrains like brown rice and oats

Note: People with irritable bowel syndrome may benefit from reducing insoluble fibre intake. It is important to note that some raw vegetables are high in insoluble fibre. If advising an increase in dietary fibre, recommend consuming more soluble fibre, such as psyllium powder (a bulk-forming laxative, otherwise known as isphaghula husk) (National Institute for Health and Care Excellence, 2015a).

frequent abdominal discomfort, and alternated between bouts of diarrhoea and constipation occurring up to two or three times a week. She suspected certain foods made it worse, but had not identified any triggers. She also felt the symptoms were exacerbated by her stressful job. Her long working hours and nature of job meant she often ate takeaway food or dined in restaurants with clients and colleagues. She tried to exercise in the gym, but still felt she was not getting enough exercise.

Panel discussion

In this case study, the key was to empower the patient and help her to determine what triggered her symptoms (bearing in mind that some foods have delayed effects). The aim would be to support her self-care and suggest dietary and other changes, while she monitored the effects of these changes on the symptoms. Motivational interviewing techniques used by the health professionals might help the patient to achieve this,

Box 1. Key points of case study 1

Eat regularly and chew food properly; avoid eating late at night
Ensure sufficient fluid intake
Use a meal planner that suits the patient’s lifestyle, specifically
Ensure moderate intake of alcohol and fatty foods and avoid spicy or irritant foods
Record the following in a daily diary: symptoms, bowel movements, diet, stress, activity levels, and sleep patterns. This may help to identify triggers
Try a probiotic for at least 4 weeks and monitor symptoms. If there is no change, try a different probiotic strain for at least a further 4 weeks (e.g. switch from <i>Lactobacillus</i> to <i>Bifidobacterium</i>)
Try a low-FODMAP diet and monitor symptoms. However, this must be started under the supervision of a dietitian

and more than one consultation would probably be required. It was noted that more information was needed with regard to alcohol and caffeine consumption, allergies, and any food intolerances (such as lactose).

The exact cause of IBS is usually unknown, although it may be caused by various factors: psychological, microbial, nutritional, infection, and genetic. Post-infectious IBS is a recognised syndrome, with approximately 10% of patients believing their IBS was triggered by a bout of infectious diarrhoea, with persisting symptoms (Beatty et al, 2014). Inflammation and differences in the gut microbiota profile (compared with that in healthy people) have been observed in IBS patients (Bennet et al, 2015), and excessive bacterial colonisation of the small intestine can occur. The link of the gut microbiota to IBS aetiology has been a key rationale for probiotic research, and positive studies have been reported with certain strains (Didari et al, 2015). Advice relating to probiotic usage with IBS is included in guidelines from the BDA (McKenzie et al, 2012) and National Institute for Health and Care Excellence (NICE) (2008).

In recent years, a low FODMAP diet has been found to help patients with IBS. This diet restricts consumption of certain poorly absorbed, short-chain compounds (i.e. fermentable oligo-, di-, monosaccharides, and polyols) that increase ileal-luminal water content and gas produced by colonic bacterial fermentation (Staudacher et al, 2014; Böhn et al, 2015; Marsh et al, 2015). IBS patients may well be aware of this diet, but it can be difficult to adhere to as a very large number of foods contain FODMAPs, including several healthy foods (e.g. certain fruits; vegetables; and fibre-rich foods, including prebiotics) (Cuomo et al, 2014). Thus, even some healthy salads and smoothies might be inappropriate for this diet regimen. If a patient is following a low FODMAP diet, it is important that he/she maintains a nutritionally adequate food intake. Patients should be directed to seek advice from a dietitian who can help with the gradual reintroduction of food, which is essential even if the patients’ symptoms have not improved.

Increasing physical activity may also help with IBS, so long as it does not aggravate symptoms (Dukas et al, 2003; Johannesson et al, 2015). IBS, particularly if exacerbated by stress, may also be helped by techniques like hypnotherapy, cognitive behavioural therapy (CBT), or psychotherapy (Hutton, 2005; Tang et al, 2013). A final point agreed by the panel was that it was important to make the patient aware that IBS treatment can be a long process that requires dedication and commitment from the patient in order to see the benefits. Moreover, what works for one person may not work for another.

Resources for patients

- ♦ The Self-Care plan of the IBS Network, including advice on FODMAPs (www.theibsnetwork.org/the-self-care-plan)
- ♦ A range of food factsheets for different age groups, covering healthy eating and lifestyle, as well as different medical conditions (www.bda.uk.com/foodfacts/home)
- ♦ Food diary developed by the BDA (www.bdaweightwise.com/going/going_diary.html)
- ♦ IBS and diet factsheet from the BDA (www.bdaweightwise.com/going/going_diary.html)

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- ◆ Resources on FODMAP including an app from the University of Monash (www.med.monash.edu/cecs/gastro/fodmap)
- ◆ Bristol stool chart (Heaton, 1999).

Case study 2: chronic fatigue syndrome and depression

This case study was about a 23-year-old male, who lived alone, was not good at shopping or cooking for himself (despite being vegetarian), and was slightly underweight (BMI 18). After graduating from university, he took on a computing job; however, after a few months, he experienced severe mental and physical exhaustion, finding it difficult to even get out of bed for work. He was eventually dismissed and spent a lot of time in his room alone on his computer. He was diagnosed with chronic fatigue syndrome (CFS) by his GP, who prescribed amitriptyline (started at 25 mg, and gradually increased to 75 mg per day) for his muscle pain and low mood. He remained depressed and lacked motivation, particularly as he remained unemployed. He also complained that he caught a lot of colds.

Panel discussion

Several panel members were familiar with this scenario and expressed concern that the patient might be a suicide risk. The male suicide rate in the UK in 2013 was at its highest since 2001 (Office National Statistics, 2015). The panelists felt the best approach would be to try and discover the root of the problem, motivate the patient, and build self-esteem. For this, a gender-specific approach was advised, as men respond better to being given facts, evidence, and explanations, and to being encouraged to take charge of their problem (Farrimond, 2012). This patient spent a lot of time on the computer, so one tactic could be to encourage him to search for patient support groups; having said this, it was important to get him away from the computer and engage with people face-to-face. The fact that he had come to the surgery, however, indicated there was a genuine desire to find a way to change.

His poor diet implied a risk of nutritional deficiencies, which could affect his health in different ways, for example, it could weaken his immune response (as indicated by his susceptibility to colds). Lack of certain B vitamins has also been linked to depression (Mitchell et al, 2014; Kaner et al, 2015; Winther et al, 2015). To achieve a balanced diet with at least five fruit and vegetable portions a day, an interest in food needs to be promoted, perhaps by encouraging him to prepare his own meals from fresh ingredients. The patient was likely to be deficient in vitamin D owing to the amount of time he spent indoors; therefore, a complete multivitamin and mineral supplement might also help. Increasing his micronutrient intake could improve his immune response and resistance to infection.

Explaining the reasoning for this advice may help motivate the patient further. Recent research in the UK found graded exercise therapy (GET) or CBT to be better than specialist medical care alone or adaptive pacing therapy (APT) for CFS treatment (Chalder et al, 2015; Sharpe et al, 2015; White et al, 2015). GET is a structured programme that gradually increases the duration and intensity of the physical activity a patient

Box 2. Key points of case study 2

Motivate the patient to take control of his/her life
Use gender-specific tactics; set small achievable goals and explain any advice
If not done already, consider referral for counselling, e.g. cognitive behavioural therapy (CBT) and/or graded exercise therapy (GET)
Encourage gentle exercise, going outdoors more often, and meeting people
Reduce intake of caffeine, alcohol, and sugar
Eat protein at each meal and include oily fish in the diet
Increase the variety of foods eaten, particularly fresh fruit and vegetables
Consider taking vitamin supplements and/or probiotics

can manage. CBT and exercise, for instance, joining a walking group (Hanson and Jones, 2015), may also help with depression and anxiety (de Souza Moura et al, 2015a; 2015b). If the GP had already organised GET and CBT, it would be important to find out how well the patient followed the programmes, and whether he perceived any benefit.

El Aidy et al (2015) describe gut microbiota as the ‘conductor in the orchestra of immune-neuroendocrine communication’ that governs stress and mood. People with depression or CFS may have an aberrant or unhealthy gut-microbiota profile (Frémont et al, 2013; Jiang et al, 2015); thus, modulation of the gut microbiota might be beneficial. Consumption of probiotics is one way of doing this.

The term ‘psychobiotics’ has been recently suggested to describe use of probiotics in psychiatric illness (Thomas et al, 2015). The bulk of research in this field still comprises animal studies, but some human trials have shown positive results for emotional symptoms of CFS (Rao et al, 2009; Sullivan et al, 2009) and depression (Benton et al, 2007; Mohammadi et al, 2015; Steenbergen et al, 2015). Probiotics can also stimulate the immune system (Ashraf and Shah, 2014) and may help to prevent colds or reduce their duration (Hao et al, 2015; Lenoir-Wijnkoop et al, 2015; Shida et al, 2015).

Resources for patients and health professionals

- ◆ Food factsheets from the BDA:
 - Depression and diet (www.bda.uk.com/foodfacts/Diet_Depression.pdf)
 - Food and mood (www.bda.uk.com/foodfacts/food-mood.pdf)
 - Chronic fatigue syndrome (www.bda.uk.com/foodfacts/cfs-meanddiet.pdf)
- ◆ Malnutrition advice, information, leaflets and screening tools from British Association for Parenteral and Enteral Nutrition (BAPEN)
- ◆ Mental Health Foundation publication on healthy eating and depression
- ◆ Patient support groups:
 - ME Association (www.meassociation.org.uk/me-association/)
 - CALM (www.thecalmzone.net/)

- Samaritans (www.samaritans.org/)
- MIND (www.mind.org.uk/)
- ◆ NICE guidance on CFS (www.nice.org.uk/guidance/CG53).

Case study 3: elderly woman with poor appetite and recurrent urinary tract infection

This case study involved an 83-year-old widow with a BMI of 18. She was a resident in an elderly care home, and had recurrent urinary tract infection (UTI) over the past year, for which she was prescribed antibiotics; she had been referred to a urologist, but no abnormalities were found. During the episodes of UTI, the patient had very poor appetite, and in general, the care home staff found it difficult to get her to consume liquids. She was fairly immobile because of arthritic pain, spending most of her time in a chair. She was often confused and sometimes had dizzy spells, but despite having had a few falls, she had never been hospitalised.

Panel discussion

This was another familiar patient scenario for the panel. The first suggestion was to do a full medication review to make sure all her medications were strictly necessary. Then, if not already carried out, her diabetes status and fluid intake would be checked. Dehydration might be an issue as patients at risk of UTI sometimes try to manage symptoms by deliberately reducing their fluid intake (Elstad et al, 2011). Introducing a regular fluid chart might be helpful (Elstad et al, 2011). Since some patients might worry about needing to urinate during the night, drinking should be encouraged early in the day.

Malnutrition was a further risk in the case of this patient. If nutritional intake is poor, patients should be encouraged to eat 'little and often', and when possible, try switching to high-calorie and high-protein foods, for instance, put full-fat milk in tea rather than semi-skimmed/low-fat milk. To help tempt appetite, care home staff could offer different coloured foods on the plate or foods with varied textures. Staff should also check if patients have difficulty with using cutlery. Introducing oral nutritional supplements could be considered; this would be helped by finding out what flavours and products are preferred (Baldwin and Weekes, 2011). If already prescribed, these should be reviewed by a dietitian.

Staff training, particularly on hygiene knowledge, should be encouraged: inadequate or incorrect cleaning after defecation may be one reason for recurrent UTI. Use of vaginal

lubricants may help prevent recurrent infections in patients with previously undiagnosed vaginal atrophy (Dason et al, 2011; Willacy, 2014). Avoiding irritants like coffee, tea and alcohol might also help (Friedlander et al, 2012; Staack et al, 2015).

In terms of dietary strategies, there is some evidence that fruit juices, D-mannose, or probiotics may help prevent UTI (Kontiokari et al, 2003). There are studies showing cranberry to be effective, but the evidence is inconsistent; concentrated juices or preparations with high levels of proanthocyanidins may be suitable (de Campos Freire, 2013; Vasileiou et al, 2013; Vostalova et al, 2015). Both cranberry and D-mannose work by preventing adhesion of *Escherichia coli* to the bladder wall (Johnson, 1991; Howell et al, 2010). A pilot study by Vicariotto (2014) showed a combination of a dry extract of cranberry, D-mannose, and two lactobacilli probiotics to be effective, but there is also evidence that probiotics alone may have a preventive effect (Grin et al, 2013).

The gut microbiota changes in later life, becoming less protective and resilient, and a move to residential care appears to exacerbate this (Claesson et al, 2012). Low levels of lactobacilli, for instance, have been linked to frailty in older people (van Tongeren et al, 2005), thus probiotics may confer additional benefits. Care home residents are also frequently prescribed antibiotics, increasing the risk of diarrhoea as a result of antibiotic disruption of the gut microbiota (O'Sullivan et al, 2013; Gillespie et al, 2015). Widely available probiotics may protect against this diarrhoea, including that caused by *Clostridium difficile* (Hickson et al, 2007; Lewis et al, 2009; Pirker et al, 2013; Issa and Moucari, 2014; Wong et al, 2014). One case study also reported that probiotic consumption during antibiotic treatment for *Clostridium difficile* reduced the risk of infection recurrence and readmission to hospital (Lee et al, 2013). Other probiotic benefits reported for elderly people in residential care include improved bowel habits, lower general infection rates, and reduction in oral *Candida* (Pitkala et al, 2007; An et al, 2010; Kraft-Bodi et al, 2015; van den Nieuwboer et al, 2015; Yeun and Lee, 2015; Nagata et al, 2016).

Resources for health professionals

- ◆ NICE guidance: UTI in adults (NICE, 2015b)
- ◆ Managing adult malnutrition in the community, including a pathway for the appropriate use of oral nutritional supplements (ONS): www.malnutritionpathway.co.uk/
- ◆ BAPEN (2012) resources on treating malnutrition.

Case study 4: type 2 diabetes mellitus

The patient in this case study was a 42-year old man diagnosed with borderline type 2 diabetes (HbA1c of 48 mmol/ml; fasting plasma glucose (FPG) of 6.2 mmol/L) at a routine GP visit. He was obese, with a waist circumference of 105 cm and BMI of 32, and a family history of T2DM (father and sister were both diagnosed). His job as a lorry driver meant he led quite a sedentary lifestyle and regularly ate unhealthy food (e.g. pizza, fried chicken, and cooked breakfasts). He smoked up to 20 cigarettes a day, but was trying to quit. He was married, with two teenage children; his wife worked part-time in

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Box 3. Key points of case study 3
Check medications and diabetes status
Introduce a fluid chart
Consider oral nutritional supplement and switch to high-calorie and high-protein foods, if possible
Engage the staff: check their hygiene training and resident activities
Consider introduction of cranberry concentrates, D-mannose, and/or probiotics, as well as a vitamin D supplement

the local supermarket. He was scared about his health risks and wanted to do something to avoid getting worse.

Panel discussion

This patient had a genuine desire to change, and T2DM had not yet developed; thus, this was a real opportunity to help this patient using motivational interviewing. The patient might be further guided toward change if the consequences of his unhealthy diet and lack of exercise on himself as well as the future of his wife and children were explained. Tactics that work better for men were suggested, such as finding out which issues he prioritised and setting attainable step-wise targets that could be monitored (e.g. tracking weight loss and T2DM risk). Trying to get the patient to stop or reduce smoking at the same time may be too difficult; one suggestion was to translate the money saved on cigarettes into a financial goal that rewards the family, such as going on an outing.

Dietary advice for this patient was essential, such as explaining glycaemic index, the recommended proportions of different food types, portion control, the role of carbohydrates in diabetes, and the need to limit alcohol consumption. Being a lorry driver, he was likely to eat on the road; nonetheless, better dietary choices could be encouraged. If he could not give up greasy breakfasts, then reducing portion sizes or switching to healthier choices might help (e.g. swap a sausage sandwich for scrambled egg). It might also help to involve his wife, who was probably the family’s main food shopper and cook. She could be encouraged to cook meals from scratch using fresh ingredients and switch to more healthy food choices (e.g. wholegrains instead of refined cereals, and unsaturated fats rather than saturated fats). The children could also be involved as they were also at risk of an unhealthy diet and lack of exercise. For example, the patient could spend some of his free time in some form of exercise with them, for instance, a game of football in the park might be easier to achieve than a gym membership. Commercial weight loss programmes might also help (Allen et al, 2015).

The gut microbiota plays a role in T2DM risk development because of its influence on gut-barrier function. An impaired gut barrier allows Gram-negative bacteria and their cell wall fragments to leak out from the gut, causing endotoxaemia, which drives a low-level systemic chronic inflammation believed to be a trigger for metabolic syndrome, T2DM, and other diseases (Festi et al, 2014). There is emerging research that probiotics might help prevent this (Bordalo Tonucci et al, 2015; Hulston et al, 2015; Le Barz et al, 2015). In addition, probiotics (particularly lactobacilli) can help maintain the activity of natural killer cells, which is negatively affected by smoking. These innate immune cells target viral infections and cancer (Imai et al, 2000; Shida and Nomoto, 2013; Ashraf and Shah, 2014).

Resources for patients

- ♦ NHS Eatwell plate: www.nhs.uk/Livewell/Goodfood/Pages/eatwell-plate.aspx
- ♦ BDA Food Factsheet: www.bda.uk.com/foodfacts/Want2LoseWeight.pdf

Box 4. Key points of case study 4

Motivational interviewing to identify the patient’s key issues
Set achievable goals that can be tracked easily
Tackle those health problems in which the patient is most likely to succeed
Engage and educate the patient’s family: healthy eating and exercise advice
Discuss portion size and swapping unhealthy food choices for more healthy ones
Suggest commercial weight loss programmes
Consider supplementation with probiotics

- ♦ BDA Weight Wise Plan: www.bdaweightwise.com/eating/eating_plan.html
- ♦ NHS Choices Weight Loss Pack: www.nhs.uk/Tools/Documents/WEIGHT-LOSS-PACK/all-weeks.pdf
- ♦ Smokefree NHS: www.nhs.uk/smokefree/why-quit/what-happens-when-you-quit

Resources for health professionals

- ♦ NHS education in diabetes: The Desmond Collaborative (www.desmond-project.org.uk)
- ♦ Diabetes UK training and awareness courses: www.diabetes.org.uk/how_we_help/diabetes-training-and-awareness-courses/
- ♦ Evidence-based nutritional guidelines for prevention and management of diabetes (Diabetes UK, 2011)
- ♦ Dietitian-led wellbeing for employers and workers: www.bdaworkready.co.uk
- ♦ NICE guidelines:
 - Management of T2DM (NICE, 2015c)
 - Dietary advice for people with T2DM (NICE, 2015c)
 - Management of workplace health (NICE, 2015d).

Conclusion

For chronic, low-level problems where there is a risk of more serious disease developing, patient expectations need to be shifted from a ‘quick fix’ to the realisation that they themselves have to take steps to maintain their health. This may mean making unwelcome changes to their diet and lifestyle. Community and practice nurses often see patients regularly, so can be instrumental in educating the patients about good nutrition and lifestyle, helping them to achieve beneficial changes.

Determining their underlying issue is often the key to making such changes. The effectiveness of health professionals’ motivational interview techniques to achieve this was raised with each case study, although it was acknowledged that these take longer than a normal consultation period allows. A tactic suggested by one panel member was to get the patient to ask you three questions.

In terms of nutritional and lifestyle advice, simple information and flowcharts would help community and practice nurses as well as their patients. In this paper, we have suggested several useful resources, but the panel concluded that a national portal or repository is needed, where nutritional and

lifestyle advice could be collected for easy access by nurses. Nevertheless, even without such national guidance, community and practice nurses can play a significant role in helping patients make small dietary or lifestyle adjustments that could make a big difference to the patients' health. **BJCN**

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Note 1: The British Dietetic Association (www.bda.org.uk) is a key source of advice regarding diet and nutrition. A list of freelance dietitians can be found at www.freelancedietitians.org.

Note 2: Training and literature on the low-FODMAP diet is available from King's College London, but is only available for registered dietitians.

Note 3: There is a wealth of advice on malnutrition and undernutrition for both patients and healthcare professionals on the British Association for Parenteral and Enteral Nutrition (BAPEN) website (www.bapen.org.uk/), including the malnutrition universal screening tool (MUST).

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