1. Micronutrient deficiencies

Kashena Mohadawoo

Ms Patel is a 55-year-old Gujarati woman living with her elderly parents. She is a volunteer at her local temple and is very close to her guru (mentor) from the temple who advises her on many aspects of her life, including her health. She has a lacto vegetarian diet at home, but will eat eggs and fish outside the house, e.g. fish and chips and egg sandwiches. Ms Patel shares the cooking with her elderly mother. She fasts twice each week, on no specific days, for religious reasons (very personal to her). On fast days she consumes nothing throughout the day or only has unlimited cups of tea with full fat milk and no sugar and/or –one or two glasses of fruit juices and fruit. She breaks her fast at bedtime and has a cheese sandwich or eats nothing until breakfast the next day. Her current BMI is 23.6 kg/m² and the relevant biochemistry is:

- Serum vitamin D 22 mmol/L
- Serum ferritin 5 µg/L
- Haemoglobin (Hb) 7.6 g/dL
- Serum folate 1.3 µg/L
- Serum calcium 2.27 mmol/L
- Serum vitamin B₁₂ 344 ng/L

- How would you assess Ms Patel using the ABCDE format?
- What are the daily recommended intakes for vitamin D, calcium, iron, folate and vitamin B₁₂ for this woman? Describe the effects of deficiency of these micronutrients.
- Calculate her dietary requirements for energy and protein.
- What is the dietetic diagnosis?
- Describe the dietetic intervention you would implement. What are the richest sources of the micronutrient? How can they be incorporated into her dietary pattern?
- What advice would you give her about lifestyle changes?
- What are the barriers to compliance for Ms Patel? Are there cultural or religious barriers? How can you support her to overcome these barriers?
- How would you evaluate the dietetic intervention and monitor Ms Patel’s progress? Discuss suitable outcome measures.