

Are plant based milks of nutritional and dietary value for patients with chronic kidney disease?

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INTRODUCTION: Plant based milk sales within the UK have increased with a recent report suggesting that 23% of us have used these in the 3 months to February 2019¹. Following a tailored renal diet is a cornerstone of treatment for patients with chronic kidney disease, with milk generally restricted to a half pint daily. This helps to ensure that levels of potassium and phosphorous are kept at safe levels to minimise potential health risks such as CKD-MBD and cardiac arrhythmia. Protein requirements also vary dependent upon the stage of kidney disease with a requirement of 0.8-1.0 g/kg ideal body weight (IBW)/day for patients with stage 4-5 CKD not on dialysis and 1.0-1.4g/kg ideal body weight for patients on dialysis². Plant based milks generally contain less potassium and phosphorous than cows milk which may be beneficial for renal patients, and apart from soya based milk, protein content is less but current level of understanding is poor.

METHOD: In order to provide appropriate dietary advice to our patient group our renal dietetic department undertook a tasting and evaluation session of 8 varieties of plant based milks. We tasted fresh and UHT and tried different brands of the same type of plant based milks. This was done to gain a better understanding of their nutritional content and taste with tea, coffee, cornflakes and porridge and on their own.

RESULTS: Nutritional values of the plants based milks we trialled are detailed in Table 1. Cows milk contains about 93-96mg of phosphorous per 100ml, the phosphorous content of the plant based milks ranged from 5.2 to 97mg per 100ml. Potassium content of cows milk is 155-162mg per 100ml with all plant based milks who reported potassium content having less than 73mg per 100ml (range 6.3-73mg). Protein content of cows milk is 3.5g per 100ml, the only comparable plant based milk was soya which contains 3.4g per 100ml, the other plant based milks contain minimal protein content (range 0.1 to 1.1g per 100ml). All milks, who reported calcium content, had similar levels of 120mg per 100ml. Plant based milks cost significantly more than cows milk (£0.05 per 100ml) the cheapest soya is £0.09 per 100ml up to £0.27 per 100ml.

DISCUSSION: Using plant based milks will reduce the potassium and phosphorous content of the diet which may be beneficial to renal patients. Pre dialysis renal patients, where protein requirements are reduced, may also benefit from switching to non soya plant based milks to reduce protein intake. Dialysis dependent renal patients have increased protein requirements so the use of plant based milks may have an impact on their protein intake, especially if they follow a vegan diet and this needs to be considered in the overall dietary assessment. Renal dietitians need to be aware of the difference in the nutritional profile of plant based milks when providing dietary advice to the renal patients in order to provide appropriate tailored advice.