

Phosphate additives in processed foods in the UK: how prevalent are they?

Mrs Elizabeth Rai¹, Mrs Eleanor McGray¹, Miss Karen Edgar²

¹Newcastle Upon Tyne Hospitals NHS Foundation Trust, Newcastle Upon Tyne, United Kingdom, ²Northumbria University, Newcastle upon Tyne, United Kingdom

Background

Limiting intake of dietary phosphate is recommended as the primary treatment for hyperphosphataemia secondary to Chronic Kidney Disease.¹ Dietetic advice on a low phosphate diet consists of limiting the intake of foods naturally high in phosphate and those that contain phosphate additives. Such additives are known to be present in a variety of processed foods and are legally added to food in the UK to maintain product quality and safety.² However; limited data exists on the incidence of these additives in UK foods. The aim of this study was to investigate the prevalence of phosphate additives in processed foods.

Method

Based on previous work that identified processed foods likely to contain phosphate additives,² products from three major supermarkets were assessed. Where more than one brand of a product existed, all were selected. Different varieties of products were also included. The presence of phosphate additives was identified from product labels and results were collated according to food type.

Results

Six hundred and ninety products were assessed and phosphate additives identified in 47% of these. Of the products reviewed, the highest incidence of phosphate additives was observed in processed cheeses and cakes where over 80% of samples contained phosphate additives. In contrast, less than 20% of potato products and ready meals assessed were found to contain them (see Figure 1). Variation was noted between brands of biscuits, breads, desserts and meat products, and the presence of phosphate additives varied according to variety in all other products except processed cheese.

Conclusion

Phosphate additives are widely present in a variety of commonly eaten processed foods. These foods are convenient, and can provide a useful contribution to nutritional intake when time, cooking skills and resources are limited. However, the presence of phosphate additives presents an additional challenge to individuals following a low phosphate diet, particularly when additives are found in foods that are not naturally high in phosphate such as soups, soft drinks and baked products. Advising patients on dietary modification is further complicated by the finding that not all products within a food group contain phosphate additives and variation can exist between brands. Although guidance can be given based on the above findings, successful implementation of dietetic advice to reduce intake of foods containing phosphate additives may be complicated by an individual's ability and willingness to check food labels, which to some may seem time consuming and impractical. Periodic reformulation of product recipes by food manufacturers may also alter the presence of phosphate additives, adding to the complexity of this process. Based on the findings of this study, clearer labelling by the food industry may be the only practical way to support renal patients in making appropriate food choices.