

Food Content, Selection and Safety

Potassium, phosphorus and sodium content of commercially available soups: Implications for patients with chronic kidney disease

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Introduction: Patients with chronic kidney disease (CKD) should limit dietary intake of sodium (Na), phosphorus (P), and potassium (K) as high intakes are associated with increased morbidity. These minerals are frequently added to soup as food additives. Although their presence is indicated in the ingredient list, P and K content may not always be present on the Nutrition fact table (NFT), making it difficult for patients to choose appropriate foods.

Objectives: 1) Examine the impact of additives on the amounts of Na, P and K indicated on NFT of commercial soup products.; and, 2) Compare the chemically analyzed K content in soups with and without K-additives.

Methods: Data on ingredient lists and NFT were collected from a convenience sample of all canned and boxed soups, including both generic and brand name products at three major grocery stores in Ottawa (n=126). A subset of soups with K-additives (n=11), matched with similar soup types without K-additives (n=11), were analyzed for K content by AOAC official method.

Results: Soups with Na-additives (95%) had significantly more Na indicated on NFT compared to soups without Na-additives (661±173 vs 41±24 mg/g, p <0.001). Soups with P-additives (21%) had no P content on NFT. Only half of soups with K-additives (27%) listed K content on NFT, which was similar to soups without K-additives. However, chemically analyzed soups with K-additives, had significantly more K vs those without K-additives (641±74 vs 269±35 mg/g, p<0.001).

Conclusion: Soups with Na-additives may have sixteen times more Na than soups without. K content of soups may be high and cannot be inferred from the presence of K-additives on product label.

Significance to the Field of Dietetics: Patients with CKD should be wary of consuming commercial soups given high Na content, and frequently missing K and P content on NFT. Findings support the eventual inclusion of K content on the NFT.

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