

**LETTER TO THE EDITOR****Letter to the editor on “Potential use of salt substitutes to reduce blood pressure”**

Dear Editor,

Farrand et al<sup>1</sup> have provided a convincing argument about the potential opportunities for inclusion of salt substitutes in staple foods to increase potassium intake and reduce blood pressure. We wish to offer an alternative viewpoint on this topic as specialist dietitians who work with adults with end-stage kidney disease.

First, we believe the number of people who may be at risk of adverse events from increased potassium consumption has been understated and the magnitude of the effect of including potassium salts overstated. In the Chronic Kidney Disease (CKD) population, prevalence of hyperkalemia is estimated to be as high as 14%-20%.<sup>2</sup> In the general practice setting, the incidence of clinically significant hyperkalemia among Australian adults with CKD who were prescribed a renin-angiotensin-aldosterone system inhibitor has been estimated at 9.9%.<sup>3</sup> Data from the United Kingdom were strikingly similar.<sup>4</sup> These numbers are not insignificant and the widespread inclusion of salt substitutes in staple foods could increase the incidence of hyperkalemia in the population. Furthermore, evidence from the cluster RCT in rural China where potassium salts were provided to 60 villages produced statistically but not clinically significant reductions in sodium intake (mean reduction of sodium intake was 14 mmol per day).<sup>5</sup> There is also emerging evidence that salt reduction strategies are most effective when targeted to those in the highest quartile of intake and not the general population.<sup>6</sup>

Second, the statement by the authors that “use of salt substitutes as a public health intervention warrants consideration as part of policy recommendations” is of great concern to us. Salt substitutes are one potential public health intervention to reduce sodium intake and increase potassium intake. Improving overall diet quality could be a more cost-effective strategy. Dietary patterns high in fruit, vegetables, wholegrain cereals, legumes, nuts, seeds, and fish reduce systolic BP by 4.26 mm Hg and diastolic BP by 2.38 mm Hg.<sup>7</sup> This exceeds the benefits of the salt substitutes quoted.


We strongly suggest that it is premature to include salt substitutes in the food supply at a population level until adequate changes in food labeling and education campaigns are in place. Potassium is already a voluntary inclusion on food labels in the United States, but in places such as Australia, New Zealand, and the UK it is not. The importance of this inclusion cannot be underestimated. Recommendations to follow a low potassium diet become infinitely more difficult for these at-risk populations when salt substitutes are included in staple foods such as breads and cereals (which are not traditionally high in potassium).

Furthermore, there are concerns that similar to phosphate additives, potassium additives are more bioavailable than naturally occurring potassium in foods. Potassium bioavailability from food additives may be as high as 90%-100% compared to that of 50%-60% of potassium found in fruit and vegetables.<sup>8</sup> We recommend that inclusion of salt substitutes into the food supply should be accompanied by monitoring of hospital admissions for hyperkalemia especially in “susceptible” groups. Furthermore, warning labels for salt substitutes should be strengthened and care should be taken to ensure clinicians and consumers are aware of the high bioavailability and how to identify potassium additives to avoid causing hyperkalemia. Inappropriate use of salt substitutes at the table to vulnerable groups can prove fatal. For example, 1/8th of a teaspoon of a salt substitute will typically provide around 350 mg or 10 mmol of potassium. This far exceeds the allowable amount of potassium in medications of 100 mg by the US FDA and is required to be accompanied by a warning.<sup>9</sup>

In the present era of patient-centred medicine, consideration should be given to also including the patient perspective regarding discussions about the inclusion of potentially fatal salt substitutes into the food supply.

**CONFLICT OF INTEREST**

All authors have nil to declare.

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