

Salt content of soups served in school canteens from Porto and Alfândega da Fé

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Introduction: Portuguese traditional diet is often high in salt, consumption of salty foods, salted foods, and salt itself. Portugal is also known as the third largest consumer of soup.^{1,2} The consumption of vegetable soup (a traditional preparation that includes high amounts of low energy-dense and high-dietary fiber, micronutrient rich vegetables), has a high satiating power, and is associated with decreased levels of obesity. However, soup can also be rich in added salt which may decrease its nutritional value. Sodium is essential for the proper and normal functioning of the body, but in excessive amounts it may favour cardiovascular diseases and certain types of cancer. WHO recommends a daily intake of 5 g of salt, or 2 g of sodium.³

The purpose of this study is to quantify the salt /sodium intake through soup consumption in high school meals (a school in the district of Bragança and the city of Porto).

Methods: Salt composition of soups was determined by Flame Photometry. Flame Photometry is widely used in clinical analysis and quality control of food when we want to quantify ions of alkali metals and alkaline earth metals such as sodium, potassium, lithium and calcium. We obtained 27 samples of a school from Alfândega da Fé (AF) and 39 samples of a school from Porto (P), between November and December 2010.

Results: Mean (\pm sd) salt content in the all samples of soup was 1.63 g (\pm 0.268)/200 g, being 1.452 g (\pm 0.19 g) / 200 g for AF and 1.760 g (\pm 0.243 g) / 200 g for P. Percentiles 25, 50, and 75 of salt content from soups arising from the all samples were, respectively, 1.478 g, 1.665 g and 1.802 g; salt content ranged from 1.150 g to 2.180 g per 200 g of soup.

Discussion: If we consider that only 30% of the total daily salt intake should be consumed at lunch, the entire meal should have no more than 1.5 g of salt, already considering the added salt. According this theoretical cut-off, the described values of salt may be considered relatively high for salt and sodium consumption.

Conclusions: The soup represents an important source of salt intake at school meal. Given its high nutritional value and important at meals, it is necessary to establish guidelines for food processing and preparation in school canteens and caterers, in order to define the optimal levels of added salt in soup preparation.

References:

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