

## Phosphorus contents of raw chicken meat and processed chicken meat products

### ABSTRACT

**Introduction:** The per capita consumption of chicken meat and related products has increased steadily in Malaysia, as it is affordable and can be consumed without religious constraints. There is concern for the widespread use of phosphate additives in processed meats, which may lead to hyperphosphatemia, especially among chronic kidney disease (CKD) patients. The objective of this study was to determine and compare the phosphorus content in raw chicken breast meat (RCBM) and selected processed chicken meat products. **Methods:** Samples of RCBM, chicken frankfurters, chicken patties and chicken nuggets of different brands were studied. The phosphorus content of the samples were determined via the dry ashing method and a Perkin-Elmer 5300DV inductively coupled plasma-optical emission spectrometer (ICP-OES). **Results:** The mean phosphorus content in RCBM was  $209.15 \pm 3.13$  mg per 100 g. Chicken nuggets contained the highest phosphorus content, followed by RCBM, chicken patties and chicken frankfurters. Compared to the RCBM, the mean phosphorus content of chicken frankfurters and chicken patties were 21.42% and 4.81% respectively lower, whilst that of chicken nuggets was 1.74% higher. The same type of chicken meat products from different brands also differed significantly in their phosphorus content. **Conclusion:** There were significant differences in the phosphorus content among different types of chicken meat products, and among the same chicken meat products from different brands. Caution should be exercised, especially by CKD patients, in consuming processed chicken meat products due to the risk posed to them by phosphorus content.

**Keyword:** Chronic kidney disease; Hyperphosphatemia; Phosphate additives; Processed chicken meat products; Phosphorus contents