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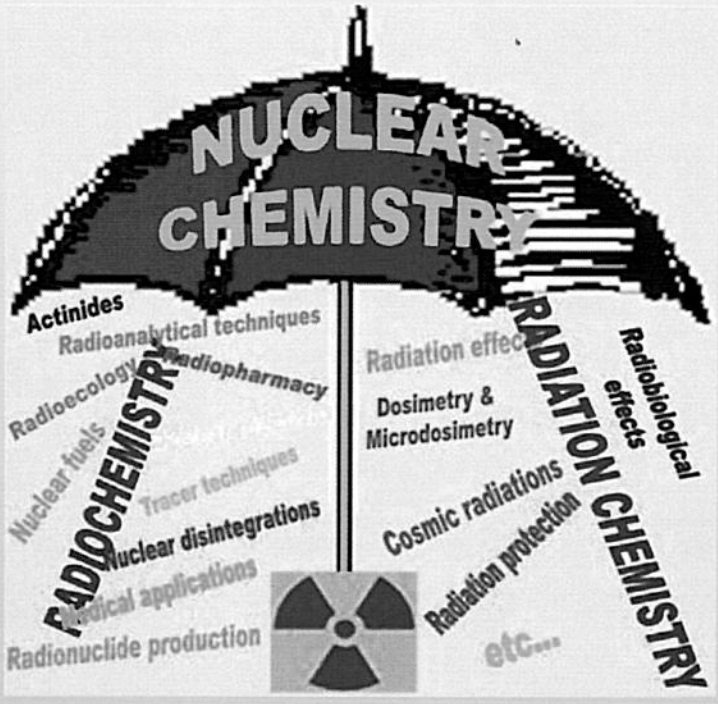

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TOTAL DIET STUDY: Mg AND Mn CONTENT ESTIMATION OF A MARKET BASKET OF SÃO PAULO STATE (BRAZIL) BY INSTRUMENTAL NEUTRON ACTIVATION

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Total Diet Studies (TDS) have been carried out to estimate dietary intakes of the essential and toxic elements for a large-scale population over a specific period of time. In general, a Market Basket approach is adopted[1-2]. In this study, the TDS was based on the evaluation of food representing a Market Basket, which reflected the dietary habits of the São Paulo State population, corresponding to 72% of the average food consumption for the state of São Paulo[3]. Evaluation of the essential elements as Na, K, Ca, Fe, Zn and Cr in this TDS had already been presented elsewhere[4]. In this study, magnesium and manganese concentrations were determined in 30 of the most consumed food groups of the Market Basket of São Paulo State - Brazil. Instrumental Neutron Activation Analysis, INAA, has been successfully used on a regularly basis in several areas of nutrition and foodstuffs. Element concentrations were determined by INAA in freeze-dried samples and ranged in mg/kg: Mg 41.4 (fats) to 5287 (coffee) and Mn 0.12 (prime grade beef) to 18.5 (leafy vegetables). The average daily Mg and Mn intake was calculated by multiplying the concentration of each element in each table-ready food group by the respective weight (g/day) of the food group in the MB and adding the products from all food groups. The results of daily dietary intakes in this study were: Mg 174.8 mg day^{-1} and Mn 1.34 mg day^{-1}. Theses values were lower than the adequate intake (AI) proposed by the Food and Nutrition Board of the Institute of Medicine (USA National Academy) for adults (. The limitation of this study is at first, based on the limits of the national survey. The national food budget survey is considered the most appropriate data source when a large group is evaluated. However, the national survey of this TDS included meals only consumed in the household. Thus, the food consumption per capita by data from POF in Brazil was 938 g, from which only 72% were included in the Market Basket of this TDS. For this reason, results obtained in this study may be underestimated.

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