

### PT354

#### ESTIMATE OF TOXIC ELEMENT INTAKE IN PRE-SCHOOL CHILDREN AND ELDERLY DIETS BY DUPLICATE PORTION SAMPLING.

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In the whole world the population is continuously exposed to a variety of contaminants from the environment. Some of these are considered harmful, such as arsenic, cadmium, antimony, thorium and uranium and their biological function is not clearly known yet.

The dietary intake study of these elements is of paramount importance since their deleterious effects can alter the metabolism and function of some essential trace elements, such as zinc, iron, calcium and selenium, by competing for ligands in the biological system. The main source of the elements for humans is the food and diet, however, the data for these element intakes by different Brazilian groups are rather poor.

A study was made with a group of pre-school children staying at the central nursery of the University of São Paulo and with a group of elderly living in private institutions in São Paulo, Brazil, with the aim of evaluating the essential and toxic elemental contents present in diets of these groups. For sampling, the duplicate portion technique was used, which consisted in collecting all the foods and beverages consumed during three consecutive days.

A radiochemical separation procedure was developed and applied to the determination of As, Cd, Sb, W, Th and U, by means retention of these elements in the resin Chelex 100 and inorganic exchanger Tin Dioxide in appropriate medium. The elements analysed presented levels of ingestion below the maximum levels allowed set by World Health Organization (WHO), and thus can be considered as not presenting any health hazard to the individuals studied in the present work.

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