

Survey on chemical contaminants in baby foods

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Foodborne diseases are defined as diseases, usually either infectious or toxic in nature, caused by agents that enter the body through the ingestion of food. The adverse health effects of foodborne diseases range from mild gastroenteritis (including diarrhea and vomiting) to life-threatening neurological, renal or hepatic syndromes, congenital anomalies and cancer. The risks posed by the presence of microorganisms and chemicals in the food supply are of concern worldwide, especially for children.

Children have unique exposure pathways. They can be exposed in utero to toxic environmental agents that cross the placenta. Such exposures can be biological (viral, bacterial, parasitic) or chemical (pesticides, toxins). They can also be exposed to pollutants that pass into their mother's milk. Neither of these routes of exposure occurs in adults or older children. Children also have pathways of exposure that differ from those of adults due to their size and developmental stage. The amount of food that children consume per kilogram of body weight is higher than that of the adult because children not only need to maintain homeostasis, as adults do, but are growing. In addition, children consume different types of food. The diet of many newborn babies is exclusively breast milk. The diet of children usually contains more milk products and certain fruits and vegetables than the typical adult diet.

The strict regulations and measures applied in European countries mean that food is generally safe, but ingestion of contaminated food may still present an important route of exposure to chemical hazards. Industrially produced food is an important part of the diet for many infants and toddlers in developed countries. Baby foods have special functions to play in the diets of infants because they are major source of nutrients and a unique source of food during the first months of their life.

In order to contribute to assess the risk to children's health arising from the presence of hazardous chemicals in food, a recent survey study on food contaminants in baby foods marketed in Lisbon, was conducted by the Food and Nutrition Department, INSA, during 2007-2008. These are the first results reported in Portugal on the occurrence and exposure assessment of mycotoxins (patulin, aflatoxins and ochratoxin A), nitrates and heavy metals (cadmium) detected in baby foods. Further studies on the interactive cyto and genotoxic effects of mixtures of mycotoxins detected in baby foods will also be presented in this conference.

Plenary
Sessions