

LEVELS OF PERSISTENT ORGANIC POLLUTANTS IN BREAST MILK: BELGIAN RESULTS FROM THE 6TH WHO-COORDINATED SURVEY

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Background Persistent organic pollutants (POPs) are chemicals that accumulate in the food chain and are toxic to humans and wildlife. Due to their adverse health effects, the World Health Organization (WHO) aims at tracking human exposure to these POPs over time.

Methods On the Belgian level of the 6th WHO-coordinated survey, 206 human milk samples were collected during the year 2014 from first-time mothers between 18 and 30 years old. The sample collection covered all Belgian provinces. Analyses targeted organochlorinated pesticides as well as other groups of POPs and, were distributed as follows: HCH, HCB, DDT, chlordane, PBDE, PeCB and BB-153 were analysed in 206 individual samples; Heptachlor, chlordecone, dieldrin, HCB and HBCD were analysed in each of 11 provincial pooled samples; All the POPs included in the Stockholm convention were analysed in the national pooled sample.

Results Some POPs, among which are chlordane isomers, alpha-HCH and o,p'-DDD, o,p'-DDE, o,p'-DDT and BDE-183 were below the detection limit (LOD) in the individual breast milk samples. On the contrary, p,p'-DDE, HCB, p,p'-DDT, beta-HCH, BDE-153 and BDE-47 concentrations were greater than the LOQ for more than 50% of the samples and the average values of these 6 POPs were respectively 52.2; 5.57; 4.40; 2.91; 0.46; 0.24 ng/g fat. Alpha-HBCD was the only compound found in the provincial pooled samples.

Short discussion/conclusions The data of 2014 study as well as the comparison with the study of 2006 support the needs for further monitoring and reduction of exposure to hazardous chemicals.