

Dichlorodiphenyltrichloroethane (DDT) was heavily used in the past in many regions of the world. The occurrence of DDTs in island populations may be elevated if the island is adjacent to major DDT consumption estuaries, such as the Yangtze River Delta. In this study, colostrum samples were collected from maternal-neonate pairs ($n = 106$) from the Shengsi Island, located directly downstream from the Yangtze River outlet. DDT isomers and enantiomer compositions were analyzed by gas chromatography equipped with mass spectrometer (GC/MS) and GC/MS-MS. The average levels of p,p'-DDE, o,p'-DDD, p,p'-DDD, o,p'-DDT, p,p'-DDT and total DDTs were 1.32, 0.03, 0.09, 0.08, 0.48, and 1.93 $\mu\text{g g}^{-1}$ lipid weight, respectively. Maternal age and pregnancy body mass index (BMI) were positively associated with levels of DDTs ($p < 0.05$). High (DDE+DDD)/DDT and p,p'-DDE/p,p'-DDT ratios suggested that current DDT residues originated primarily from historical use of DDT products, but new sources may also contribute partially to some high o,p'-DDT/p,p'-DDT ratios. Enantiomeric enrichment was found for the (-)-enantiomer of o,p'-DDD and the (+)-enantiomer of o,p'-DDT, suggesting stereoselective attenuation. Based on breast milk consumption, the average daily intake of DDTs by neonates was $8.33 \pm 7.34 \mu\text{g kg}^{-1}\text{bw}$ per day, which exceeded the WHO's tolerable daily intake guideline of $0.01 \text{ mg kg}^{-1} \text{ bw}$ per day by 25%, implying some neonates in the Yangtze River region are potentially at high risk from exposure to DDTs.