

Effect of the mother's consumption of traditional Chinese herbs on estimated infant daily intake of lead from breast milk

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摘要

Infant exposure to lead through breast milk is of special concern because breast milk is considered the best food source for infants under 6 months. In this study, a total of the mothers provided colostrum samples once in the early postpartum period, but only 16 of them provided breast milk weekly at 1-60 days postpartum. The geometric mean of lead concentrations in all colostrum samples (n=72) was 7.68±8.24 microg/L. The concentration of lead in the breast milk of the consumption group (the mothers who consumed traditional Chinese herbs) was 8.59±10.95 microg/L, a level significantly higher than the level of 6.84±2.68 microg/L found in the control group (mothers who did not consume traditional Chinese herbs). In the consumption group (n=9), the mean concentration of lead in the breast milk decreased with days postpartum, from 9.94 microg/L in colostrum to 2.34 microg/L in mature milk. We found the highest daily lead intake in infants at birth, and the level gradually decreased after the first month. We used an estimation of the hazard index (HI) to analyze the health risk of infants. In total, 5.7% (2 out of 35) of the HI estimates exceed 1.0 for the consumption group. In conclusion, the consumptions of traditional Chinese herbs by the mothers in this study significantly affected the body burden of lead in their infants.