

## BREASTFEEDING AND THE WEANLING'S DILEMMA

Wolf rightly calls attention to the low breastfeeding rates in the United States and emphasizes the many advantages associated with breastfeeding.<sup>1</sup> We agree that every mother has a fundamental right to breastfeed her child, that human milk is the natural diet for infants, and that breastfeeding should be strongly promoted globally. We would like to add that breastfeeding should be safe and not affected by risks due to chemical pollutants.

Some persistent environmental chemicals, notably polychlorinated biphenyls (PCBs), dioxins, brominated flame retardants, and many pesticides, accumulate in the body and are transferred from the mother to the infant via human milk.<sup>2</sup> These substances have caused contamination of human milk only during the last half century, and long-term health impacts are now being discovered. At birth, the infant carries some of the maternal burden of PCBs and related substances, but after about 4 months of breastfeeding, the child's serum concentration of these substances may exceed that of the mother.<sup>3</sup>

The somewhat equivocal benefits demonstrated in relation to duration of breastfeeding longer than 4 months<sup>4</sup> may in part be explained by geographical and temporal variations in human milk contamination.<sup>2</sup> Recent studies suggest that prolonged breastfeeding in populations exposed to increased amounts of persistent organochlorine compounds may lead to adverse effects, including delayed physical growth,<sup>5</sup> delayed development of the nervous system,<sup>6</sup> and genotoxicity<sup>7</sup> in the infant. These findings are in agreement with the notion that the developing organism is likely

to be particularly vulnerable to toxicant exposures. Likewise, the maternal advantage of decreased breast cancer risk<sup>1</sup> could well be related to elimination via milk of substances that could promote development of breast cancer.<sup>8</sup>

Therefore, efforts in support of breastfeeding need to address environmental pollution that can cause contamination of human milk. Unfortunately, this consideration was missing from the documentation provided by the World Health Organization to the World Health Assembly<sup>9</sup> in support of extending the duration of exclusive breastfeeding from 4 months to 6 months. Owing to varying levels of drinking water quality, nutrients supplied from breastmilk substitutes, and exposures to persistent pollutants, the risk–benefit consideration in regard to extended breastfeeding will necessarily vary.

The documentation on human milk contaminants suggest that mothers in the United States and elsewhere may need to consider an additional aspect of the weanling's dilemma<sup>10</sup>: Does human milk contamination limit the advantage of extended breastfeeding? ■

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