Infant Feeding and Development

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Sir—Florey et al. investigated the association between infant feeding and mental and motor development in first born singletons. The study population comprised 846 infants, of whom 592 attended for developmental assessment at age 18 months. The Bayley Scales of Infant Mental and Motor Development were used to assess the child's developmental status. Eight covariates included in the analysis were the partner's social class, the maternal age, height, education, pregnancy cigarette and alcohol consumption, and the infant sex, birthweight, gestational age, and placental weight. They reported confounder-adjusted differences of 3.7-5.7 units in the Bayley mental development index between breast- and bottle-fed children.

In an assessment of the relationship between exposure to environmental agents (including dietary factors) and neuropsychological development, most epidemiologists are fully aware of the pitfalls of using global measures of children's abilities. Due to multifactorial impacts on neuropsychological development, it is always critical to consider the effects of potential confounders. Florey et al. acknowledged that they were reluctant to suggest a causal role for breast milk in mental development since some important confounders were not considered in their study. This is true! From our own research experience and literature, quality of home environment and maternal intelligence are two key confounders in an assessment of neuropsychological effects of environmental (or dietary) factors. It may be impossible to consider all potential confounders in one epidemiological study, but it is essential to take important confounders into account. Similarly, residual confounding may have arisen when the variables were classified into categories that were too broad (e.g. mother's education), and/or when a poor proxy was used for the underlying confounder(s) of interest (e.g. social class).

A regression model was used to assess the relationship between infant feeding and development in their study. Only the covariates which were statistically significant were included in the final model. This is the matter for concern. In epidemiological practice, it is well-known that statistical significance is not the criterion on which to base the decision that a particular factor is or is not a potential confounder. The decision on which variables to include in and exclude from the analytical model must depend on known or assumed mechanisms rather than on purely statistical arguments. It will be interesting to see if the magnitude of regression coefficients for the feeding methods remains constant when other 'non-significant' covariates are included, although these variables accounted for only 0.8% of the variance of the mental development index.

The proportion of children lost to follow-up in this study was not small (approximately 30%) and I feel there should be more information about why they were lost and how they compared with children who were followed.

There is certainly a place for epidemiological studies of infant feeding and neuropsychological development, but they require improved research designs and more sophisticated statistical techniques.

REFERENCES