

ORIGINAL RESEARCH COMMUNICATION

Use of stable-isotope techniques to validate infant feeding practices reported by Bangladeshi women receiving breastfeeding counseling^{1,2,3}

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Background: The World Health Organization recommends exclusive breastfeeding until age 6 mo. Studies relying on mothers' self-reported behaviors have shown that lactation counseling increases both the rate and duration of exclusive breastfeeding.

Objective: We aimed to validate reported infant feeding practices in rural Bangladesh; intakes of breast milk and nonbreast-milk water were measured by the dose-given-to-the-mother deuterium dilution technique.

Design: Subjects were drawn from the large-scale Maternal and Infant Nutrition Interventions, Matlab, study of combined interventions to improve maternal and infant health, in which women were randomly assigned to receive either exclusive breastfeeding counseling or standard health care messages. Data on infant feeding practices were collected by questionnaire at monthly visits. Intakes of breast milk and nonbreast-milk water were measured in a subsample of 98 mother-infant pairs (mean infant age: 14.3 wk) and compared with questionnaire data reporting feeding practices.

Results: Seventy-five of the 98 subjects reported exclusive breastfeeding. Mean (\pm SD) breast milk intake was 884 ± 163 mL/d in that group and 791 ± 180 mL/d in the group reported as nonexclusively breastfed ($P = 0.0267$). Intakes of nonbreast-milk water were 40 ± 80.6 and 166 ± 214 mL/d ($P < 0.0001$), respectively. Objective cross-validation using deuterium dilution data showed good accuracy in reporting of feeding practices, although apparent misreporting was widely present in both groups.

Conclusions: The dose-given-to-the-mother deuterium dilution technique can be applied to validate reported feeding behaviors. Whereas this technique shows that the reports of feeding practices were accurate at the group level, it is not adequate to distinguish between feeding practices in individual infants.

Key Words: Human milk • breastfeeding • Bangladesh • deuterium dilution

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