at week 2, 2.42 ± 0.90 mg/L and 298 ± 233 μg/L, respectively, at month 4 of lactation). The mean concentrations of Zn and Cu ($n = 69$) were 1.43 ± 0.85 mg/L and 556 ± 350 μg/L, respectively, at month 9. No significant relationship was found between concentrations of Zn and Cu in breast milk and evaluated parameters such as gender, weight, height, head circumference of infants and maternal age, height and BMI, parity, and birth interval. The average concentrations of Zn in breast milk at the second month postpartum were significantly higher in mothers with a history of gestational anemia than in those with no anemia (3.60 ±1.22 mg/L and 3.16 ±1.30 mg/L, respectively; $P = .043$). At the second week postpartum, maternal hemoglobin was negatively correlated with Cu concentrations in breast milk ($n = 167$, $r = -0.119$, $P = .010$). At 4 months' postpartum, maternal hemoglobin was negatively correlated with Zn concentrations in breast milk ($n = 107$, $r = -0.225$, $P = .020$). The average concentrations of Zn in breast milk at the fourth month postpartum was significantly lower in mothers taking iron supplementation during the postpartum period than in those with no supplementation (1.21 ± 0.65 mg/L and 1.67 ± 0.98 mg/L, respectively; $P = .025$).

CONCLUSIONS: Concentrations of Zn and Cu in breast milk decreased as lactation continued. Maternal anemia and iron supplementation could influence the status of Zn and Cu in breast milk. Further studies are needed to clarify this effect.

S. Songul Yalcin,[a]
Suzan Yalcin,[b]
and Ali Ihsan Gucus[c]
[a]Hacettepe University Faculty of Medicine,
Department of Pediatrics, Turkey;
[b]Selcuk University Faculty of Veterinary, Department of
Food Hygiene and Technology, Turkey; and
[c]Turkish Atomic Energy Agency, Ankara Nuclear
Research and Training Center, Turkey

The Factors That Affect Long-term Breastfeeding Form Data Analysis of Demographic Health Survey in Turkey

BACKGROUND AND OBJECTIVES: The World Health Organization recommends breastfeeding for up to 2 years of age or beyond, and there is no age limit for cessation of breastfeeding according to an American Academy of Pediatrics policy statement. Continued breastfeeding at the first year is 1 of the core indicators for assessing global infant and young child feeding practices. The study aims to determine the frequency of breastfeeding after 12 months (long-term breastfeeding) according to various infant and maternal characteristics and to investigate the effects of long-term breastfeeding on nutritional habits and growth status of children in the national data.

METHODS: The sample included 1666 children aged 12 to 35 months from the Turkey Demographic and Health Survey. Maternal parameters included age, highest education level attained, occupation, speaking language, smoking status, contraceptive methods, health insurance, type of wedding, presence of bride price, parity, anthropometric data, paternal occupation, family type, family size, family wealth index, residence, and region. Children parameters included age, gender, preceding birth interval, presence of antenatal care, birth place, birth weight, birth order, duration of breastfeeding, infant feeding practices, use of bottle with a nipple, and anthropometric data. Infants breastfed after 12 months of age (long-term breastfeeding) were included in the "BF12" group. Statistical analyses were done in weighted data. The differences in rates of BF12 were analyzed by using univariate logistic regression. Predictor variables that had a significant relationship with the dependent variable (BF12) at the $P < .10$ level were selected for inclusion in the multivariate logistic regression model.

RESULTS: Only 55.9% of children were breastfed beyond 12 months. The rates of long-term breastfeeding were higher in mothers with high birth order, long preceding birth interval, religious wedding, use of traditional contraceptive methods, mothers aged 30 to 34 years, and overweight mothers. However, the rates were lower in mothers with tobacco exposure and in bottle-fed infants. Long-term breastfeeding did not change the consumption of plain yogurt, solid foods, and semi-solid foods; however, it decreased the intake of bottled milk and fruit juice. The rates of long-term breastfeeding were similar in cases of undernutrition and in cases with normal growth status.

CONCLUSIONS: Long-term breastfeeding was related to some maternal and infant characteristics; however, it did not affect consumption of complementary food. Breastfeeding promotion programs should necessitate some targeted interventions for younger, primiparous, and smoking mothers.

S. Songül Yalçýn,[a]
and Suzan Yalçýn[b]
[a]Hacettepe University Faculty of Medicine, Turkey; and
[b]Selçuk University Faculty of Veterinary Medicine, Turkey

Assessment of Malnutrition Based on Three Nutritional Risk Scores in Hospitalized Iranian Children

BACKGROUND AND OBJECTIVES: Malnutrition is a major health problem in hospitalized pediatric patients. It is reported that the number of malnourished pediatric patients varies between 21% and 80% according to the level of the country's development. It is essential that patients who are malnourished or at risk for malnutrition be identified as soon as they are admitted to the hospital. A recent study applied 3 nutritional risk screening tools (Screening Tool