

Special Dietary Guidelines for Teenage Mothers

There are Recommended Dietary Allowances, or RDAs, for teenagers and for women nursing a baby. But should there be special nutritional guidelines for teenage mothers who are nursing? Some preliminary research suggests it might be a good idea.

Pediatrician Kathleen Motil, who is with the ARS Children's Nutrition Research Center in Houston, Texas, compared the milk production of 22 mothers—half teens, half adults. The nutrient compositions were similar, but the teens produced 37 to 54 percent less milk than adults. Motil's findings were published last summer in the *Journal of Adolescent Health*.

Motil said the differences between adult and teen milk production remained statistically significant, even after she adjusted the data for differences in feeding time and daily nursing frequency. Why should the milk volume be different? Motil has a theory.

"Our preliminary observations suggest that teenage mothers are facing a dual metabolic challenge," said Motil. "It may be they are still growing, themselves, which may cause an extra nutritional demand."

Motil and her colleagues wanted to find out more about teen nutrition during lactation. They measured body composition, dietary intakes, and milk production. The participants: 24 teenage mothers, half of whom breast-fed their infants. Eleven additional teens who had never been pregnant served as a control group. Barbara Kertz, patient service coordinator at the nutrition research center, organized the study.

Preliminary findings suggest that teenagers who nurse their infants continue to add muscle mass to their bodies, indicating ongoing growth.

"We found that nursing teens consumed more energy (calories), protein, and vitamin B₆ than teen

mothers who bottle-fed or teens who never had children," says Kertz. "They were taking in 23 percent more calories and vitamin B₆ and 40 percent more protein." The teens' intake returned to regular levels after weaning. This research team also included nutritionist Corinne Montandon, who helped the girls keep a food journal to track the amounts and kinds of foods they ate. Montandon reviewed the journals for accuracy and sometimes provided a little advice. She cautioned one mother, for example, against trying to crash diet her way back to a pre-pregnancy figure.

Encouraging Breast-Feeding

Knowing about teenagers' nutritional demands during breast-feeding fits into a bigger plan of encouraging all mothers to breast-feed—regardless of age. In fact, USDA's Food and Nutrition Service (FNS) has started a nationwide campaign to encourage breast-feeding.

The number of U.S. teenagers becoming pregnant has been declining, but many groups estimate half a million girls under 20 do give birth annually. For those who choose to raise their infants, breast-feeding can offer advantages such as protection against a broad range of infections and enhanced bonding.

ADAM GILLUM



Sopar Seributra (RN) gets to know a teen mother who will participate in a study that examines the consequences of lactation on the young mother's body composition.

Teenagers are less likely to chose breast-feeding than adults, however. During an FNS focus group on breast-feeding, women of all ages cited embarrassment and lack of family support as barriers to breast-feeding.

But teens face special problems, according to a survey by Alain Joffe, M.D., of the Department of Pediatrics at Johns Hopkins University Hospital. Joffe has studied breast-feeding among 250 inner city teens in Baltimore, Maryland. Susan Radius, a sociologist at nearby Towson University, was a co-author.

The researchers found teenage mothers who returned to high school had a hard time working nursing into their schedule.

Joffe said in his survey the best indicator of whether a teen would breast-feed successfully was having a breast-feeding mentor. That person could be her mother, aunt, or other older friend who had breast-fed successfully and could provide advice.

He added that for teens to accept breast-feeding they must know the benefits and feel confident about ways of dealing with obstacles. Some high schools, for example, allow new mothers special time to breast-feed.

Breast-feeding advice and public acceptance seem a long way from research. But these outside factors can have very real effects on the science. In fact, the researchers have to account for the extent of their teenage subjects' breast-feeding knowledge. That's why Kertz, a lactational consultant, met with the girls in their study from delivery onward, to provide breast-feeding basics.

Still, the researchers at the Houston center don't know exactly how the teens handled their breast-feeding

before their study began. Theresa O. Scholl, who is with the University of Medicine and Dentistry of New Jersey, read Motil's paper on breast milk production. Scholl's career has focused on the effects of teen pregnancy and lactation on the health of girls and their infants.

"The differences between the growing teens and adult women in this study are huge. It's really

For teens to accept breast-feeding they must know the benefits and feel confident about ways of dealing with obstacles.

impressive," says Scholl. "It might be good to do a follow-up study of the infants from birth to the first 6 months. That way, you could find out if the teen mothers were offering to nurse less often from the start and if that contributed to a reduction in milk flow."

Kertz agrees that the study's findings, like all scientific research, open the door to new questions.

"Breast-feeding is an issue of supply and demand," she says. "The more a mother breast-feeds, the more milk she'll have and the longer she'll be able to nurse. Most of the girls weaned their infants at 3 to 4 months. Was this an arbitrary decision to stop nursing, or did the young mothers lack the nutrients to continue?"

There are bigger questions, however—the most basic one being how real is the competition between growing teens and their infants for nutrients? Another is: Do the girls really continue to grow during their childbearing and nursing? Medical textbooks once said no; now the question is being revisited.

Scholl points to her studies of pregnant teens that measured growth

of the lower leg only, rather than from head to foot. Lordosis, a natural bending of the spine during pregnancy, can cause errors in a head-to-foot measurement. These studies suggested strongly that growth continues during pregnancy.

Does it follow that continued growth in teens could affect breast milk volume? Scholl points out that, during pregnancy at least, nature often favors the mother during nutrient stress. Studies on famine and infant birth weight have suggested this natural advantage may have contributed to the survival of the human species.

"Nature wouldn't allow the mother to deplete all her resources," says Scholl. "If it did, she couldn't live to bear more offspring. Moreover, if the mother died, what would happen to her baby?"

More research will need to be done to say with certainty that teen growth causes nutrient competition that results in lower birth weights in newborns and less milk during lactation. But Scholl's work on teen births and Motil's work on teen nursing lend support to the theory that the body puts some of its nutrients on reserve to benefit the teenage mother.

If this proves to be true, physicians will want to be sure that teenage mothers are getting the extra nutrition they and their infants need to ensure breast-feeding success.—By **Jill Lee, ARS.**

Kathleen Motil is at the USDA-ARS Children's Nutrition Research Center, Baylor College of Medicine, 1100 Bates St., Houston, TX 77030; phone (713) 798-7180, fax (713) 798-7187, e-mail kmotil@bcm.tmc.edu ♦