Maternal & Infant Nutrition Briefs

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Breastfeeding and calcium do not promote postpartum weight loss

Does breastfeeding help mothers return to their pre-pregnancy weight faster? The research on that topic has yielded mixed results. Some, but not all studies, have found no differences in postpartum weight changes according to breastfeeding status. In addition to breastfeeding practices, the effect of calcium intake on postpartum weight loss is unclear. Low calcium intakes tend to raise the level of vitamin D in the blood, which draws more calcium into fat cells and may increase fat synthesis. Therefore, the purpose of this study were: 1) to measure the changes in body composition and weight among breastfeeding and nonbreastfeeding mothers and 2) to determine if calcium supplements might promote postpartum weight loss in the same group of women.

The study design involved a randomized, double-blind, controlled trial, carried out in two parts. In the first part, breastfeeding and nonbreastfeeding mothers were recruited into the study, starting at 2 weeks postpartum and followed until 6 months postpartum (lactation phase). In the second part, another group of breastfeeding and nonbreastfeeding mothers were recruited and followed from 23 weeks until 12 months postpartum (weaning phase). More than 95% of the women in the study were white, and all had usual intakes of calcium less than 800 mg/day. In both parts of the study, women were randomly assigned to either a calcium supplement (1 gm/day) or a placebo group. The main outcomes were changes in body composition (fat and lean mass), as measured by dual energy X-ray absorptiometry and weight. Comparisons were made in the analysis, controlling for potentially confounding factors including mother's height, usual calcium intake, and prenatal weight gain.

In the first 6 months, nonbreastfeeding women lost fat mass at a faster rate than did the breastfeeding mothers, but the overall postpartum weight loss was not different between the two groups. Calcium supplements had no effect on either the rate of fat loss or overall weight changes in the first 6 months. In the second 6 months, neither

breastfeeding status nor calcium supplements affected the changes in fat mass or postpartum weight. However, we do not know whether the two groups differed in their intent to lose weight. In other words, it is possible that nonbreastfeeding women tried to restrict their energy intakes more than did the breastfeeding women.

Conclusions and Implications: Calcium supplements do not appear to increase postpartum weight loss. While some studies suggest the breastfeeding facilitates postpartum weight loss, health professionals should use caution when telling women about expected postpartum weight losses while breastfeeding.
Source: Wosje KS, Kalkwarf HJ. Lactation, weaning, and calcium supplementation: effects on body composition in postpartum women. Am J Clin Nutr 2004; 80:443-9.

Food dyes related to hyperactivity in preschoolers

With all of the processed snack foods currently available on the market, many parents wonder whether certain artificial ingredients might be harmful for their young children. Some clinical studies suggest that food additives, specifically dyes and preservatives, might have adverse effects on the behavior of young children. However, most of these studies have focused on the effects among of children with attention deficit-hyperactivity disorder or other behavioral problems (ADHD). Thus, the implications for the general population are unclear. To date, no studies have examined the question, using a carefully controlled clinical trial in a population-based sample. The purpose of this study was to determine whether food dyes and a preservative (sodium benzoate) influence behavior of 3-year old children.

The study design involved a randomized, controlled, double-blind clinical trial. The sample was randomly recruited from the population of all 3 year-olds who were born between 1994-1996 and living on the Isle of Wright, U.K. From a total eligible population of 2878 children, 277 completed the clinical trial. The clinical trial lasted 4 weeks, during which time all children were given diets free of artificial colorings and preservatives. During the second and fourth weeks, the children drank a mixed juice that contained either 20 mg of artificial colorings and 45 mg sodium benzoate (active challenge) or only juice (placebo). Thus, all children participated in both the active challenge and placebo phases. In a pilot test of the methods, adults who drank the two beverages were unable to tell which one contained the artificial ingredients. Parents completed questionnaires weekly on changes in their child's behavior to assess the level of inattention, hyperactivity, fidgetiness, and impulsivity, which are all behaviors captured on the Weiss-Werry-Peters Activity scale (WWPA). In addition, research psychologists used the WWPA to assess the child's behavior during a free play session in the clinic each week The overall design of the study also took into account whether or not the children had hyperactive behavior or allergies (determined by skin prick testing) at the beginning of the study.

Parents reported greater increases in hyperactivity behavior during the active challenge phase, compared to the placebo phase ($p < 0.007$). Hyperactivity or allergy at baseline did not influence the results. In other words, the results suggest that additives affect all children equally and have a general pharmacological, rather than immunological, effect on behavior. Interestingly, the psychologists' ratings of the child's behavior did not vary across the weeks of the study. One limitation is that parents rated "changes in behavior", whereas the psychologists only scored behaviors at each time point. Thus, although the overall design of the study was very

strong, reliability and/or sensitivity of the methods to assess the child's behavior may be less than ideal.

Conclusions/Implications: The authors concluded that artificial food colorings and sodium benzoate have an adverse effect on child behavior, detectable only by parents. More studies are needed in other populations to confirm these findings. Note: Health professionals may anticipate some questions from parents about food additives and behavior, due to an article based on this study that will soon appear in a popular parenting magazine.

Source: Bateman B, Warmer JO, Hutchinson E, Dean T, Rowlandson P, Grant C, Grunday J, Fitzgerald C, and Stevenson J. The effects of a double-blind, placebo controlled, artificial food colourings and benzoate preservative challenge on hyperactivity in a general population sample of preschool children. Arch Dis Child 2004; 89: 506-511

Public attitudes about breastfeeding

Many states are considering legislation that supports breastfeeding in public. Corporations are also examining policies that may have an impact on breastfeeding practices of their employees. To help initiatives move forward, policymakers need information on public opinions and attitudes related to breastfeeding policies. A recent article in the Journal of the American Dietetics Association summarizes public attitudes from a national survey of US adults.

The 2001 Healthstyles survey, mailed to 5065 US adults (> 18 yrs), had an overall response rate of 73%. The sample, weighted on seven demographic variables, matches that of the US census and reflects the general US population. The survey contained nine items related to breastfeeding attitudes, with possible responses ranging from 1=strongly disagree to 5=strongly agree. One-third of the sample marked "no opinion" across all of the items. However, in most cases, more people agreed than disagreed with each statement. Percentage in agreement (moderate to strong agreement) is shown below.

• Employers should provide flexible work schedules, such as additional break time, for breastfeeding mothers (49.7%)
• Employers should provide extended maternity leave to make breastfeeding easier (47.4%)*
• Employers should provide a private room for breastfeeding mothers to pump milk at work (43.1%)*
• Public buildings need to have a room where women can breastfeed or pump milk (40.7%)*
• Shopping malls should provide a private place to help women breastfeed their babies (52.1%)*
• Women should have a right to breastfeed in public places (43.1%)
• It is appropriate to show a woman breastfeeding her baby on TV programs (27.9%)
• Breastfeeding education should be available as part of a high school health education curriculum (33.5%)
• Would support tax incentives for employers who make special accommodations to make breastfeeding easier (27.0%)

For some of the items (*), African American and /or Hispanic adults were more likely to be in agreement than white adults. Legislation or policies related to these items might be particularly important in increasing the duration of breastfeeding in African American and Hispanic women.

Conclusions and Implications: Public support appears to be relatively strong for certain worksite policies and for breastfeeding rooms in public places. Breastfeeding advocates can use this information to encourage decision makers to enact legislation and policies supporting breastfeeding.

Source: Li R, Hsia J, Fridinger F, Hussain A, Benton-Davis S, Grummer-Strawn L. Public beliefs about breastfeeding policies in various settings. J Am Diet Assoc 2004; 104: 1162-1168.

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