in Table 1. For this analysis, dietary change was measured with the food frequency questionnaire, and baseline grams of fat from the food groups were taken from the food record data.

The set of baseline eating pattern variables used to predict short-term change accounted for 12% of the variance in 3-month measures of percentage energy from fat. Analyses of individual variables identified two eating patterns that significantly predicted short-term change: the number of meals missed per week and responsibility for food. The same variables significantly predicted long-term change in behavior.

APPLICATIONS

These findings indicate that clinical nutritionists must exercise care when identifying eating patterns that will be used as a marker of a “difficult” or “potentially unsuccessful” client. Many of the characteristics that nutritionists commonly use have much intuitive appeal. Many of the eating patterns measured in our study were not related to success in the dietary change intervention. These patterns include innovative eating style (cookbooks), ownership of equipment to ease food preparation (microwave), meal rigidity (three meals, no snacks), and source of fat in the diet (meat, dairy, and fats and oils). These findings are not what clinical practice and recommendations would suggest. Rather, our findings indicate that clinical practice should be supported by research findings and that many of the intuitively appealing variables, which might be expected to predict success at dietary change programs, may not be valid.

The set of eating patterns predicted a significant amount of the variance in both short-term and long-term change. However, the amount of variance accounted for was small (approximately 10%); this suggests that other types of variables are as important or more important in predicting change in an intervention such as the Women’s Health Trial. The intervention was designed to be flexible and adaptive to the individual’s eating patterns (12). Because of the nature of the intervention, psychological or social differences may be more important in predicting success than baseline differences in eating patterns.

Two variables were related to both short-term and long-term change in dietary behavior: the number of meals missed per week—a marker of irregular and disorganized food consumption—and responsibility for food, including food selection, purchasing, and preparation. These two findings could be used to guide clinical practice.

First, missing meals can be prevented through planning ahead in most situations. Planning for “emergency” and easily prepared meals could be emphasized in intervention design. This might be especially critical in regard to a widely available nutrient, such as fat. Planning ahead to avoid skipping meals could help individuals stay away from situations in which the only available choices are high in fat.

The finding that food responsibility is related to success in the Women’s Health Trial could be important in the design of interventions in other populations. Other studies have shown (9-11) that it is important to include the primary meal preparer when dietary interventions are done with men or children. Involving the entire family in dietary change may be an effective method of changing dietary fat consumption in individuals who do not prepare their own food.

References


Attitudes toward infant feeding among adolescent mothers from a WIC population in northern Louisiana

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Advantages of breast-feeding are well documented, and health professionals generally promote this method of feeding infants as ideal (1-3). Even so, a notable number of American women elect not to breast-feed their infants (4-6). Mothers who are less likely to breast-feed are black, have a low education and income level, and are less than 20 years of age (4,5,7-9). Researchers have demonstrated that attitudinal variables influence the decision regarding infant feeding method (10-13).

This study was conducted to evaluate attitudinal and other influences on infant feeding decisions among adolescent mothers in northern Louisiana. Louisiana has one of the highest teen pregnancy rates in the nation, with northern Louisiana being highest in the state (14).

The purposes of the study were to determine: (a) demographic characteristics of adolescents who choose to breast-feed vs
from an instrument developed by Berger of the questionnaire was adapted (11,12) in northern Louisiana. The attitude section on infant feeding practices, attitudes, and demographic characteristics was administered to mothers who were younger than 20 years old and were participants in the Special Supplemental Food Program for Women, Infants, and Children (WIC) in northern Louisiana. The attitude section of the questionnaire was adapted (11,12) from an instrument developed by Berger and Winter (13). Items on the questionnaire are positive (eg, "breast-feeding is the healthiest feeding for the baby") and negative (eg, "breast-feeding is old-fashioned"), and are based on a Likert scale (ranging from 1=strongly agree to 5=strongly disagree). Total attitude scores could range from 18 (very negative attitude towards breast-feeding) to 90 (very positive attitude).

Statistical analysis was performed using the Number Cruncher Statistical System (NCSS, version 5.03, 1990, Dr Jerry L. Hintze, Kaysville, Utah). Frequency data were calculated for incidence of breast-feeding, demographic variables, and attitudes toward breast-feeding. There were no missing values. \( \chi^2 \) Analysis was performed to determine significant relationships.

RESULTS AND DISCUSSION

The sample consisted of 84 adolescent mothers aged 14 to 19 years. Eight of the mothers had attempted breast-feeding. Other researchers have reported higher rates among adolescents who attempted breast-feeding (ranging from 16.7% [12] to 53% [15]). Our lower rate was not surprising because the majority of the study subjects were single (n = 76), black (n = 74), had less than a high school education (n = 65), and all were from a southern rural region, all of which are correlated with a low incidence of breast-feeding (4,5,7-9).

Characteristics of breast-feeding and non-breast-feeding mothers were similar with the following exceptions: (a) six of those who breast-fed were working, compared with 24 of those not breast-feeding; and (b) the most often reported age of parity in breast-feeding mothers was 18 to 19 years (n = 4) and 16 to 17 years (n = 42) in non-breast-feeding mothers. Joffe and Radius (15) found that age was not significantly associated with intent to breast-feed among adolescents; however, other researchers have reported increased incidence of breast-feeding with increased maternal age (15).

The adolescents' mothers or the babies' fathers had the most influence on method of infant feeding for 30 of the sample teens. Agreement with the item "my boyfriend wants me to breast-feed" was found most often by mothers who worked outside the home (P<.003), those who breast-fed their infants (P<.02) and adolescents who had completed higher grades in school (P<.02). The WIC nutritionist was reported to have the most influence in the infant feeding decision by only 11 of the subjects, and the physician by 4. This indicates that, as found in other studies (12,17,18), health care professionals have a limited influence in the feeding decision. Most subjects (n = 53) made the infant feeding decision before pregnancy or during the first trimester. Similar findings have been reported by others studying adolescent mothers (15). Other studies of adolescent girls (13,19) report that attitudes and intentions regarding infant feeding methods exist before pregnancy.

Total breast-feeding attitude scores ranged from 40 to 78, with a mean (±standard deviation) attitude score of 59.2±7.7. Using the same questionnaire, Baisch et al reported mean scores of 61.9 (range=36 to 85) (11) and 60.1 (range=27 to 85) (12). As the respondents' ages increased, the total attitude score increased (P<.005).
Respondents who did not plan to return to school had lower scores (P<.02) than those who had plans to return. Teens who stated that they had been discouraged from breast-feeding by a physician or nurse had lower scores (P<.04) than those who had not been discouraged. No significant relationships were found between total attitude scores and other factors studied.

Many adolescent mothers expressed positive responses to individual items on the attitude questionnaire (Table 1). In other studies (11,12,19,20), the majority (n=65) agreed that breast-feeding is the healthier feeding method. Fifty-five disagreed that breast-feeding is old-fashioned. Adolescent mothers also perceived the closeness of the nursing relationship as an advantage to breast-feeding, and 48 disagreed with the statement "breast-feeding makes the baby too close to me." Disagreement with this item (a positive response to breast-feeding) was related to higher education levels (P<.002).

Mothers in this sample, however, were vulnerable to misconceptions and barriers related to breast-feeding. Embarrassment about breast-feeding, a perceived barrier perhaps most common to adolescents, was expressed by 36 of the teens in our study, and has been expressed by teens in other studies (15,20). Of the adolescents in our sample, 29 agreed with the common belief among teens that breast-feeding will cause breast disfigurement (11,12,20), and 35 thought they did not know enough about breast-feeding.

APPLICATIONS

The results of this and other studies on breast-feeding among adolescents suggest that the most effective promotion and education efforts should focus on benefits of breast-feeding, while refuting common misconceptions that are unique to this population. Ideally, education should be provided in schools or through public means before pregnancy, and should include men. After pregnancy, education should occur early in prenatal care and should include the baby's father and/or the pregnant teen's mother. Dietitians are challenged to take a more active role in schools and adolescent prenatal programs in promoting breast-feeding.

References


Eating quality of muffins, cake, and cookies prepared with reduced fat and sugar

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The Dietary Guidelines for Americans (1), published jointly by the US Departments of Agriculture (USDA) and Health and Human Services, recommends that Americans choose a diet low in fat, saturated fat, and cholesterol, and use sugars only in moderation. The Surgeon General’s Report on Nutrition and Health (2) and the National Academy of Sciences Diet and Health Report (3) support these recommendations. Data from USDA’s Report on the 1987-88 Nationwide Food Consumption Survey (4) indicate that total dietary fat intake accounts for about 36% and saturated fatty acids for about 13% of an individual’s total energy intake. These amounts of total fat and saturated fat are above the Dietary Guidelines intake re-commodations of 30% or less of total energy as fat and less than 10% as saturated fat. USDA data indicate that Americans’ daily per capita consumption of nutritive sweeteners (ie, corn sweeteners, edible syrups, and honey) increased 14% over the past 20 years (5). Consumption of nutritive sweeteners increased from 118 lb in 1968 to 138 lb in 1990.

Although there is research on the performance of reduced levels of hydroge-