Background

The U.S. Department of Agriculture’s (USDA) Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) safeguards the health of low-income pregnant and postpartum women, infants, and young children who are at nutritional risk. The WIC Infant and Toddler Feeding Practices Study-2 (WIC ITFPS-2), also known as the “Feeding My Baby” Study, is the only national study to capture data on caregivers and their children over the first 6 years of the child’s life regardless of their continued participation in WIC. Overall, the study examines child-feeding practices, associations between WIC services and those practices, and the health and nutrition outcomes of children who received WIC around birth. This report, the fifth in the series generated from this study, focuses on the dietary intake patterns and weight status of children during the fourth year of life. The report also examines families’ WIC experiences and their perceptions of the program’s impact.

Methods

This national study represents the population of infants enrolling in WIC during the initial recruitment period (July through November 2013) at eligible sites. Caregivers were recruited in person as they enrolled in WIC (either prenatally or before their infant was 2.5 months old). Study recruitment occurred at 80 WIC sites across 27 States and territories nationwide. Sites were eligible for study participation if they anticipated enrolling a minimum average of 30 participants per month. Caregivers and their children remained eligible to participate in the study regardless of continued participation in WIC. The study’s analytic sample includes 3,777 caregivers who completed at least a 1- or 3-month postpartum interview. In this report, analyses may use smaller sample sizes because of study attrition or missing data, or because research questions only pertained to a subset of participants.

This report reflects the responses from follow-up interviews conducted between July 2013 and July 2018, occurring every 2-3 months between ages 1 and 24 months, and every 6 months thereafter. The interviews included questions on feeding practices and related behaviors, as well as a 24-hour dietary recall to estimate the child’s usual dietary intake of nutrients and overall diet quality as measured by the Healthy Eating Index (HEI)-2015. Additionally, WIC administrative or health care provider records provide data on children’s weight and length or height at birth, and around 6, 12, 24, 36, and 48 months of age.

Findings

The top reported reasons for continued WIC participation were the education received from WIC, the WIC food package, and the work of WIC personnel. Among the study sample, 46 percent reported continuous WIC participation until their child was 48 months old. An additional 12 percent reported participating in WIC at some point during their child’s fourth year of life. The top three reasons why caregivers continued participating in WIC at 42 months were: the education, information, and advice they receive from WIC (94 percent), the WIC food package (93 percent), and WIC staff listen to their thoughts about their child’s health (91 percent) (Figure 1).

Figure 1: Top three reasons why participants continued in WIC at 42 months

94% 93% 91%

Education, information, and advice
WIC food package
WIC staff listen to my thoughts on child health

WIC = Special Supplemental Nutrition Program for Women, Infants, and Children
Consistent 4-year participation in WIC was associated with better diet quality. At age 48 months, the average HEI-2015 score of study children was 58.9. This was comparable to their scores at age 36 months (61.4) and to the scores of a national sample of 2- to 5-year-old children (60.1). Consistent WIC participation bolstered children’s diet quality at 48 months. Study children who continuously participated in WIC until age 4 had a diet quality score that was roughly 3 points higher than children who left WIC after their first year, a finding that was statistically significant after adjustment for other socio-demographic variables and early feeding practices.

Children participating in WIC consumed the foods included in the WIC food package. Among those families who participated in WIC at 42 months, the overwhelming majority reported their children consumed foods from the WIC food package. Ninety-nine percent reported their children consumed the fruits, 97 percent reported consumption of the milk, 96 percent reported consumption of the vegetables, and 95 percent reported consumption of the eggs (Table 1). Caregivers also reported their children consumed the grain products, with 97 and 92 percent reporting consumption of the breakfast cereals and the whole wheat bread/other whole grains, respectively.

Table 1: Percentage of families participating in WIC at 42 months who reported their child consumes foods from WIC food package

<table>
<thead>
<tr>
<th>WIC Foods</th>
<th>Percentage of Families</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fruits</td>
<td>99.4%</td>
</tr>
<tr>
<td>Milk</td>
<td>97.0%</td>
</tr>
<tr>
<td>Vegetables</td>
<td>96.1%</td>
</tr>
<tr>
<td>Eggs</td>
<td>95.3%</td>
</tr>
<tr>
<td>Breakfast cereal</td>
<td>96.9%</td>
</tr>
<tr>
<td>Whole wheat bread/other whole grains</td>
<td>91.6%</td>
</tr>
</tbody>
</table>

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For more information on WIC ITFPS-2 children, visit the USDA website at www.fns.usda.gov/research-and-analysis.

For Most Macro- and Micronutrients, median intakes met or exceeded recommended levels at age 4. However, median intakes of vitamins D and K and potassium were below recommended levels, with nearly 84 percent of study children having inadequate intake of vitamin D. Though median intakes of vitamin E and calcium were above recommended levels, the prevalence of inadequate intakes were 36 percent and 27 percent, respectively.

Children’s weight status varied. At 48 months, 61 percent of study children had a body mass index (BMI)-for-age percentile in the healthy or normal range. A small percentage (5 percent) were in the underweight range. Fifteen percent were in the overweight range, and 18 percent were in the obese range. There were no significant associations between WIC participation status and weight status at 48 months.

Study participants reported changing their behaviors based on WIC nutrition education. Seventy percent of WIC ITFPS-2 caregivers indicated that they changed the way they eat or the way they feed their family because of something that they learned at WIC. Among those who changed their feeding practices, the most commonly reported changes included choosing healthier foods/more nutrient-dense foods or eating a more balanced diet (39 percent), and eating more fruits and/or vegetables (27 percent).