

# Staff Workshop Improves Child Care Center Menus in South Central Texas: A *Best Food for Families, Infants, and Toddlers (Best Food FITS)* Intervention

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## ABSTRACT

**Objective:** To assess the efficacy of an educational workshop for child care center staff to improve menus.

**Methods:** Staff from 18 centers attended a nutrition educational workshop that included an activity that compared center menus to MyPlate standards. Four weeks of menus collected before and after the workshop were imported into SuperTracker; the Food Details report produced menu data clustered by day and center. Changes in pre-post menus were assessed using Healthy Eating Index scores and the SAS software macro, MIXCORR.

**Results:** After the workshop, there was a lower probability that fruit juice ( $P = .03$ ) and starchy vegetables ( $P = .004$ ) and a higher probability that non-starchy vegetables ( $P < .001$ ) and whole grains ( $P = .004$ ) were on menus; amounts of refined grains ( $P = .004$ ), savory snacks ( $P < .001$ ), and cheese ( $P = .004$ ) were significantly lower. Total Healthy Eating Index scores improved after the workshop ( $P = .009$ ).

**Conclusions and Implications:** Comparing 4 weeks of menus revealed menu changes. Workshop interventions show promise for improving children's health.

**Key Words:** menus, intervention, child day care centers, child, overweight, Healthy Eating Index, MyPlate (*J Nutr Educ Behav.* 2017;49:435-440.)

Accepted February 5, 2017.

## INTRODUCTION

The rates of overweight and obesity in US children are persistently high; 31.8% and 17.0% of children ages 2–19 years are classified as overweight or obese, respectively.<sup>1,2</sup> However, the prevalence of obesity among children is not distributed evenly across the nation. In San Marcos, TX, for example, 38.4% of children grades 3–12 were obese in 2012–2013.<sup>3</sup> This disparity provided the impetus for developing a community coalition, *Best Food for Families, Infants, and Toddlers (Best Food FITS)*, dedicated to combating child obesity

in San Marcos and surrounding communities in south central Texas.<sup>4</sup> *Best Food FITS* implements evidence-based strategies to prevent excess weight gain, such as promoting increased intake of fruits and vegetables and decreased intake of calorie-dense foods and sweet beverages.<sup>5</sup> The coalition aimed to focus obesity prevention strategies on young children because children who are overweight by age 5 are at a much greater risk than their normal-weight counterparts of becoming obese by the time they are adolescents.<sup>6</sup> Previously, *Best Food FITS* collaborated with community partners to improve

children's menus in San Marcos restaurants.<sup>7</sup>

Although body weight is influenced by a variety of factors such as genetic variation, epigenetic programming, physical activity, and the built environment, dietary intake has a primary role.<sup>8</sup> Unfortunately, the diets of many US children likely promote weight gain and negatively influence taste preferences and eating habits that may persist into adulthood.<sup>9-11</sup> A potentially useful setting for improving diets of young children is the child care center, where 61% of children <5 years old spend an average of 33 h/wk<sup>12</sup> and can consume up to two thirds of their daily nutrition.<sup>13</sup> Child care center menus may not be optimal and often include juice; whole milk; foods high in fat, sugar, and sodium; highly processed foods such as crackers; and only limited amounts of vegetables and whole grains.<sup>14-16</sup> Whereas a variety of factors such as child care providers' feeding practices and center policies contribute to the suboptimal quality of menus in some child care centers,<sup>17</sup> an important factor may

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*Conflict of Interest Disclosure:* The authors' conflict of interest disclosures can be found online with this article on [www.jneb.org](http://www.jneb.org).

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<http://dx.doi.org/10.1016/j.jneb.2017.02.002>

also be insufficient nutrition knowledge and training of directors and staff.<sup>18,19</sup> Workshop interventions to train staff on improving foods offered in child care settings have shown promise. For example, in a study spanning 3 states, Alkon et al<sup>20</sup> reported positive, yet nonsignificant, changes in the nutritional quality of foods offered in centers after a workshop intervention. Because significant improvements were observed for other outcomes, such as provider knowledge and child body mass index, it is possible that the method used to assess changes in child care center foods, a single day of observation, was not sensitive enough to reveal significant improvements.<sup>20</sup>

The objective of this study was to measure the efficacy of a child care center staff educational workshop in improving child care center menus in south central Texas, including San Marcos, by comparing menus collected for 4 weeks before and after a workshop intervention.

## METHODS

### Study Design

The intervention was part of a larger child care center study composed of the following components: an initial site visit at each participating center, which included the collection of menus and an assessment of the nutrition and physical activity environments; a workshop for child care

center directors and staff; a follow-up phase in which support was offered via telephone; and a final site visit, which included a postintervention collection of menus and assessment of the nutrition and physical activity environments. Spanish-speaking researchers and assistants were available during all phases of the study.

### Participants and Recruitment

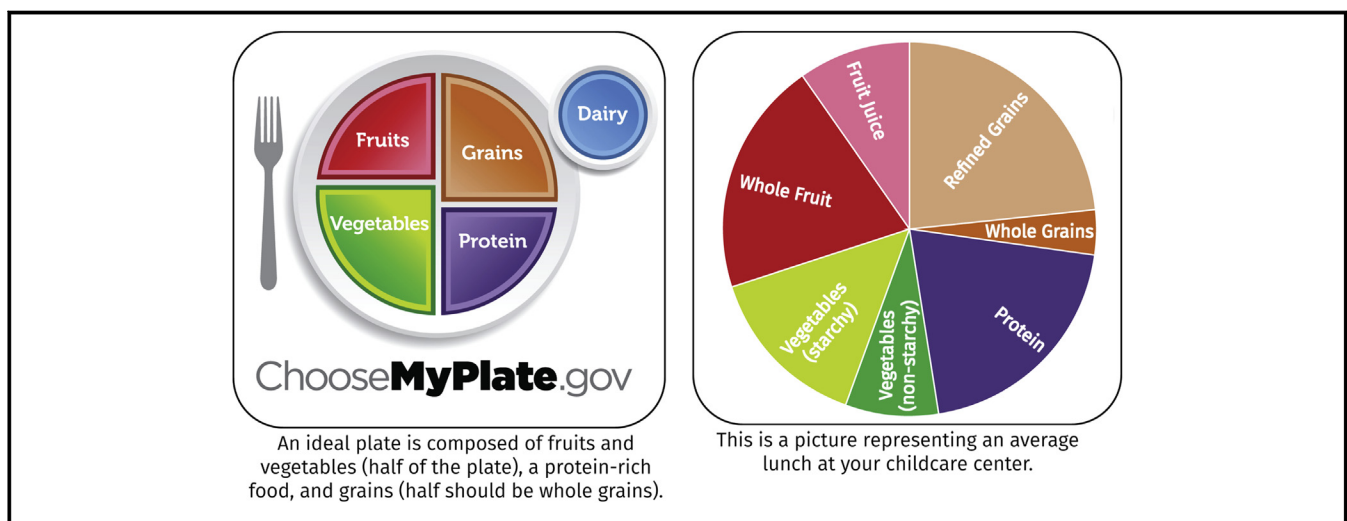
In spring, 2013, researchers called all 98 child care centers located in Hays County and nearby Bastrop County listed on the Texas Department of Family and Protective Services child care center licensing Web site. During scripted phone calls, centers were reviewed for eligibility criteria, which included licensure by the state and providing at least 1 meal or snack. Incentives for the center included \$75 in grocery gift cards. Incentives for staff members attending the workshop were continuing education credits, *Best Food FITS* tote bags, and T-shirts. The Texas State University Institutional Review Board approved all aspects of this study.

### Procedures

During the initial site visit, after the researchers obtained informed consent, a team of 2 researchers collected menus from the previous month and conducted a 2-hour assessment of the nutrition and physical activity

environment of the center through observations in the kitchen, classrooms, play areas, and rooms where meals were served. Results of the assessments are not reported here. Photographs taken in the kitchen (eg, sodas in the refrigerator) and the classroom (eg, wall art depicting candy and fast food) were shared with staff later in the workshop. Researchers made follow-up calls to clarify menu details, such as serving size. Researchers then conducted a preliminary menu analysis to create an educational tool for the workshop. To do this, menu items for each center were entered into unique profiles on the US Department of Agriculture SuperTracker Web site.<sup>21</sup> The SuperTracker Food Groups & Calories report function was used to generate the average number of servings of food groups on the menus for each center. These reports were exported to Excel 2013 (Microsoft Corporation, Redmond, WA) spreadsheet software, which was used to generate menu pie charts that were displayed alongside a MyPlate diagram in a handout customized for each center (Figure 1).

A 5-hour workshop for child care center directors and staff, conducted by nutrition faculty, students, and dietetic interns, was held on a Saturday at the university, 1–2 months after the initial site visit. Nutrition education, founded in Social Cognitive Theory, aimed to improve learning and elicit behavioral change.<sup>22</sup> The first lecture addressed risk factors



**Figure 1.** Example of a customized handout comparing a child care center's average menu with MyPlate. Handouts were shared with child care staff in an intervention workshop.

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