Research Article

Participation in the *Child and Adult Care Food Program* Is Associated with Healthier Nutrition Environments at Family Child Care Homes in Mississippi

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ABSTRACT

Objective: Describe foods and beverages offered, nutrition practices, and nutrition policies of family child care homes in Mississippi and differences by participation in the *Child and Adult Care Food Program* (CACFP).

Design: Cross-sectional study conducted between fall, 2015 and spring, 2016.

Setting: Mississippi.

Participants: Random, stratified sample of 134 family child care homes that enroll 3- to 5-year-olds. Providers completed a modified version of the Environment and Policy Assessment and Observation–self-report tool.

Variables Measured: Foods and beverages offered at lunch, provider practices regarding nutrition, and presence or absence of written nutrition policies.

Analysis: Descriptive statistics, likelihood ratio chi-square, and *t* tests.

Results: Most homes (>75%) provided components from the fruit, vegetable, grain/bread, meat/meat alternative, and milk food groups at lunch. At some homes, the food and beverage selections offered were high in fat, sugar, and refined grains. Providers at CACFP-participating homes ($P < .05$) reported healthier beverage selections, more healthful nutrition practices, and more written nutrition policies compared with providers at non-CACFP homes.

Conclusion and Implications: Interventions and regulatory standards are needed, particularly in non-CACFP homes, to ensure that food and beverage offerings, provider practices, and policies regarding nutrition support the development of healthful dietary behaviors in early childhood.

Key Words: children, family child care homes, foods, Mississippi nutrition practices (*J Nutr Educ Behav*. 2017;■■:■■–■■.)

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INTRODUCTION

Child care environments have an important role in promoting healthful dietary intakes in children,[1] behaviors which in turn are critical for growth and development in early childhood.[2] In the US, family child care homes (FCCHs) are the second largest provider of non-relative child care for children aged <5 years.[3,4] Family child care homes are typically owned and operated by a single individual, often female,[5] and it is estimated that nationally one quarter of children aged <6 years are cared for in FCCHs[6] for at least 33 h/wk.[3] Environmental factors of FCCHs can influence the quality of children's dietary intakes through the foods and beverages provided and the nutrition practices and policies.

The *Child and Adult Care Food Program* (CACFP) is a federally regulated program that provides funds to states to support the reimbursement of child care programs, including FCCHs, that provide nutritious meals and snacks to lower-income children.[7] Participation in CACFP is voluntary; through the program, about 3.3 million children in the US receive meals and snacks daily.[8] The CACFP requires child care meals and snacks to include components from the milk, fruit and/or vegetable, grain or bread, and meat or meat alternative food

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groups.[7,8] However, CACFP still allows much flexibility in foods and beverages served and does not limit the offering of low-nutrition, high-calorie beverages and foods for which child care programs are not seeking reimbursement.[1] Despite CACFP's shortcomings, participation was found to be positively associated with the quality of foods served in child care programs.[9-11]

Little is known about what occurs in the nutrition environment of FCCHs that participate in CACFP,[10-15] particularly in the southern US, where the burden of child obesity is highest.[16] To address this gap, this study assessed foods and beverages provided and the nutrition practices and policies of a sample of FCCHs in Mississippi, and examined whether provisions, practices, and policies differed by CACFP participation. In Mississippi, FCCHs are an important provider of non-parental child care that enroll about one third of children aged <6 years.[17] The licensing requirements for FCCHs put forward by the Mississippi State Department of Health address nutrition in great depth and specificity, exceeding CACFP requirements and encompassing nearly all best practice recommendations.[18,19] Thus, one would expect foods provided, nutrition practices, and nutrition policies at FCCHs across the state to support healthful dietary behaviors in children. However, caveats in the state's licensing requirements for FCCHs and the voluntary nature of CACFP create gaps through which FCCHs can avoid being held to these nutrition standards. Most FCCHs in Mississippi are exempt from state licensure because they enroll <6 children. In fact, only about 18 providers across the state are licensed to care for children in their homes.[19,20] This gap in licensing leaves many FCCHs without oversight from the state's early care agency; hence, foods provided and nutrition practices likely vary and may not be consistent with standards recommended to support healthful dietary behaviors in children.

Many FCCHs in Mississippi opt not to participate in CACFP.[21,22] Although this federally regulated feeding program is intended to supplement the dietary intakes of lower-income children to ensure they meet their daily nutrition requirements while in child care,[7,8] FCCHs that choose not to participate do not have to abide by CACFP standards. This study hypothesized that participation in the CACFP would be associated with the offering of higher-quality foods and beverages, more healthful nutrition practices, and greater presence of written nutrition policies at FCCHs in Mississippi. Findings will inform policies and future interventions to promote healthful dietary behaviors in children who are enrolled in child care.

METHODS

The researchers collected cross-sectional data from FCCHs in Mississippi between fal1, 2015 and spring, 2016, before the new CACFP guidelines took effect in October, 2017.[23] To be eligible for participation, FCCHs had to enroll preschool-aged children (3–5 years). Based on this criterion, potential FCCHs were identified from electronic databases obtained from the Early Years Network at Mississippi State University and the Mississippi CACFP office. The FCCHs were then stratified equally by CACFP participation and geographic location (rural/urban), which was determined by matching zip codes for each home with census tract–based Rural-Urban Commuting Area codes.[24] A random sample of FCCHs was then selected from each stratum and invited to participate. Selected providers were mailed an informational packet containing informed consent, data collection tools, and a postage-paid envelope to return their completed consent and data tools. In all, 714 packets were mailed but 204 were returned undelivered. Of those remaining (n = 510, assumed to be successfully delivered), 134 completed packets were returned, yielding a 26% response rate. The Institutional Review Board at the University of North Carolina at Chapel Hill granted approval for the study.

Data Collection

A modified version of the Environment and Policy Assessment and Observation–self report (EPAO-SR) tool was used to assess the nutrition and physical activity environment at the FCCHs.[25] The original EPAO-SR was developed for child care centers and includes questionnaires for center directors and classroom teachers. The FCCH is a different context from a child care center in that it is smaller in size and typically owned and operated by a single individual. Thus, the contents of the original EPAO-SR were modified to reflect the FCCH context and consolidated its questionnaires so that providers would not be overwhelmed by the tool.

For this study, the researchers examined nutrition-related information from the EPAO-SR. When completing the tool, providers were asked to focus on what was offered to 3- to 5-year-old children. Providers were asked to indicate the types of meals or snacks (breakfast/morning snack, lunch, afternoon snack, and supper) typically offered to children. From a list of common food and beverage choices, providers were asked to indicate the specific foods (fruits, vegetables, bread, grain, meat, meat alternatives, and desserts) and beverages (100% fruit juice, fruit drinks, soda, sports drinks, water, and milk) served to children at lunch on the day the tool was completed. Providers could also write in their response if a specific food or beverage they offered was not listed on the tool.

The EPAO-SR includes a section about nutrition practices. Specifically, providers were asked how often they used practices such as sitting with children during meals, eating the same foods as children, using their behavior to encourage healthy eating (role modeling), telling children that fruits and vegetables taste good, teaching children about the foods they were eating, and talking with children about the importance of healthy eating. Providers were asked how often they ate sweet or salty snacks in children's presence and ate fast food or drank sugary beverages while caring for children. Questions also asked providers about how often they sought professional development on healthy eating and communicated the importance of healthy eating to parents. In this section, all questions were scored on a 6-point Likert-type scale in which 1 indicated never and 6 indicated always.

The EPAO-SR also captured the presence or absence of written nutrition