

Type of Child Care Setting Is Associated with Child Care Constraints and Food Insecurity Among Families with Low-Incomes

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PII: S1876-2859(22)00354-0
DOI: <https://doi.org/10.1016/j.acap.2022.07.009>
Reference: ACAP 2089

To appear in: *Academic Pediatrics*

Received date: 20 January 2022
Accepted date: 10 July 2022

Please cite this article as: Hong-An T. Nguyen MD, MSc , Ana Poblacion PhD, MS , Stephanie Ettinger de Cuba PhD, MPH , Charlotte Bruce MPH , Diana B. Cutts MD , Type of Child Care Setting Is Associated with Child Care Constraints and Food Insecurity Among Families with Low-Incomes, *Academic Pediatrics* (2022), doi: <https://doi.org/10.1016/j.acap.2022.07.009>



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Keywords: child care, child care constraints, food insecurity, material hardship, low-income

Running header: Child Care Setting, Child Care Constraints & Food Insecurity

Word count: abstract – 244; main text – 3817

Funding and conflicts of interest:

Funding source: Dr. Nguyen was supported by an institutional grant from the Health Resources and Services Administration (T32HP10028) and the National Center for Advancing Translational Sciences (1UL1TR0011430). The work of Children's HealthWatch is supported by private foundations and generous donors. A complete list of supporters is available at www.childrenshealthwatch.org. The funders had no involvement in the study design, in the collection, analysis and interpretation of the data, in the writing of the article, and in the decision to submit for publication. The authors have no other conflicts of interest to disclose.

Abstract

Objective: High quality child care positively affects long-term development in children and is a necessary support for parents who work or are in school. We assessed the association between child care setting and parents' report of difficulties with ability to work and/or further their education ("child care constraints") or material hardships among families with low incomes.

Methods: Cross-sectional data were analyzed from families in Minneapolis, MN with children aged six weeks to 48 months in child care from 2004-2017. Associations between child care setting (formal, informal relative, informal non-relative) and child care constraints or material hardships (household/child food insecurity, housing instability, energy instability) were examined.

Results: Among 1,580 families, 73.8% used informal care. Child care subsidy and public assistance program participation were higher among families utilizing formal care. Compared to formal care, families using informal relative or non-relative care had 2.44 and 4.18 greater adjusted odds of child care constraints, respectively. Families with children in informal non-relative care had 1.51 greater adjusted odds of household food insecurity. There were no statistically significant associations between informal relative care and household or child food insecurity, and no associations between child care setting and housing instability or energy insecurity.

Conclusions: Informal care settings - relative and non-relative - were associated with child care constraints, and informal non-relative care with household food insecurity. Investment to expand equitable access to affordable, high-quality child care is necessary to enable parents to pursue desired employment and education and reduce food insecurity.

What's New

Parents of children in formal child care experience fewer child care related limitations in their ability to work and/or further their education and greater food security. Access to affordable, high-quality child care provides two-generation support to both parent and child.

Introduction

High-quality, stable nurturing, inclusive, and affordable early education and care have been shown to positively affect children's long-term development and educational attainment¹⁻³ while simultaneously supporting parents who work or are in school.⁴ However, choosing and accessing appropriate child care can be difficult for families, particularly those who face interrelated barriers in meeting their wants and needs. While some parents may prefer child care by a relative, others may seek alternative arrangements with a friend, neighbor, or sitter.⁵ Parents may want a child care center close to home, work, or school, but issues of inadequate hours of operation, concerns about quality or safety, lack of diversity, cultural inclusion or services for children with disabilities, and high cost may factor into the decision.^{6,7}

Child care expenses for infants and toddlers can consume, on average, more than a third of a family's income in the United States, depending on care setting and geography.⁸ For families with low and moderate incomes, the national child care average cost can exceed their annual income.^{6,8} As a result, families may be forced to make trade-offs between child care and basic needs - such as buying enough food for an entire household.⁶ Yet to offset these costs, caregivers need to be able to work and/or further their education, which in turn requires them

to have child care. These challenges are referred to as "child care constraints" - when caregivers have difficulty obtaining child care needed to work and/or attend school. Child care constraints have been associated with household material hardships and poor health among parents and their children.^{9,10}

These myriad factors influence families' access to and decision-making around care arrangements for their children. Given the significant financial impact of child care on families, we investigate whether the type of child care setting - formal settings such as child care centers, or informal settings with relatives, friends, or sitters - utilized by families living with low incomes is associated with their experiences of material hardships and with child care constraints. We hypothesize that families who use informal care settings will be more likely to experience child care constraints and material hardships compared to families who use formal care.

Methods

Study Sample

Data were collected as part of Children's HealthWatch, an ongoing cross-sectional study monitoring the health and well-being of young children and caregivers¹¹ in a pediatric primary care clinic in Minneapolis, Minnesota. Caregivers were overwhelmingly parents but also included a small number of grandparents and other caregivers; for simplicity, we refer to parents throughout. Initial eligibility criteria comprised children aged 6 weeks to 48 months with public or no health insurance (as a proxy for low-income status), residency in Minnesota,

use of child care, and parent fluency in English, Spanish, or Somali. Because the study's focus was on non-parental child care, households were excluded if the primary source of child care was a parent. Households were also excluded if the child received early intervention (EI) or Supplemental Security Income (SSI), which were considered eligibility markers for school-based early childhood special education programs. This resulted in a total sample size of 1,732 parent-child dyads interviewed between January 1, 2004 and December 31, 2017. Dyads were further excluded if children were brought to parents' school or work sites (n=150) or if the child care arrangement was temporary (n=2). In total, 1,580 dyads were eligible for final analysis (Figure 1). The medical center's institutional review board approved this study and renewed approval annually.

Measures

Parents reported birth mothers' self-identified race and ethnicity (Hispanic; Black, non-Hispanic; White, non-Hispanic; Other) and nativity (US-born; foreign-born). Parents also reported age, marital status (single; partnered; separated/divorced/widowed), employment status (employed; not employed), and educational attainment (less than high school degree; high school degree or equivalent; technical school/college or higher), as well as the child's breastfeeding history (ever breastfed; never breastfed), and current child health insurance (public insurance; no insurance). Children's age and sex were obtained from medical records prior to the survey.

In Minnesota, family, friend, and neighbor care is referred to as "informal" care. "Formal" care indicates licensed child care settings, such as child care centers and family child care homes.¹²

Thus, the independent variable "child care setting" was defined with three categories: (1) formal care – child was in a child care center or preschool, family child care homes, or Head Start/Early Head Start; (2) informal relative care – child was cared for by a relative in the parents' own home, or in a relative's home; and (3) informal non-relative care – child was cared for by a neighbor, friend, or sitter. Parents reported the child care setting used most often, defined as at least once a week, each week, for the prior month.

The dependent variables were measures of child care constraints and household material hardship – including food insecurity, housing instability, and energy insecurity. Child care constraints were defined by parents' report of experiencing difficulties attending school and/or working due to problems obtaining child care.⁹ Household and child food insecurity status were defined by the 18-item US Food Security Survey Module, which includes household-level and child-level questions assessing food security in the household over the past 12 months.

Households were considered food insecure if parents responded affirmatively to three or more of the eighteen household-level questions. Food insecurity among children was defined by parents' affirmative responses to two or more of eight child-level questions.¹³ Families were categorized as experiencing housing instability if they reported experience of at least one adverse housing condition: (1) being behind on rent or mortgage in the past year, (2) moving two or more times in the past year (multiple moves), and/or (3) homelessness within the child's lifetime (living in a shelter, motel, temporary or transitional living situation, or scattered-site

housing or no steady place to sleep at night).¹¹ Households were considered energy insecure if families experienced having one or more of the following in the past year: (1) an actual or threatened shut-off of household utilities, (2) using a cooking stove for heat, and/or (3) one or more days without heat/cooling.¹⁴

Additional measures included parent report of average number of hours their child spent in child care, source of meals for their child while in child care, receipt of child care subsidy, and participation in other public assistance programs, including housing subsidies, energy assistance, Special Supplemental Nutrition Program for Women, Infants and Children (WIC), Supplemental Nutrition Assistance Program (SNAP), and/or Temporary Assistance for Needy Families (TANF).

Analyses

Descriptive statistics were used to characterize the overall study sample by child care setting (formal care, informal relative care, informal non-relative care). Chi-square and analysis of variance, as appropriate, were used to assess differences between the three groups. Separate multivariable logistic regression models were performed to determine associations between child care setting and child care constraints or household material hardships. Covariates were chosen based on significant associations and *a priori* relationships (e.g. relationship of breastfeeding to employment, especially among families with low incomes).^{15,16} The model for all families was adjusted for child age and breastfeeding history; parent age, race/ethnicity, nativity, marital status, employment, and education. Additionally, multivariable logistic

regression models were conducted stratified by race/ethnicity (among families with Black non-Hispanic mothers, or Hispanic mothers), and by nativity (among families with US-born mothers or foreign-born mothers). Results were reported as adjusted odds ratios (aORs) and 95% confidence intervals (CIs) for all models, using a significance level of 0.05 for all hypothesis testing. All analyses were performed using SAS 9.4 (SAS Institute, Inc., Cary, NC).

Results

Sample Characteristics

Of the 1,580 parents with young children in a child care setting, almost three-quarters reported using informal relative care (59.8%) or informal non-relative care (14.0%) (Table 1). Parents with children in informal relative care or informal non-relative care were more frequently employed, had a partner, and did not have post-high school education when compared with those with children attending formal care. Additionally, a majority of children in informal relative care or informal non-relative care had mothers who were born outside of the United States, or identified as Hispanic. On average, children attending informal relative care (mean age 12.3 months) were younger than children informal care or informal non-relative child care (mean age 14.4 and 14.3 months, respectively). On average, children in the sample spent 29.5 hours per week in any child care setting.

On average, 80 percent of all households participated in WIC across all child care settings, with the highest enrollment percentage among families using informal non-relative care (88.2%) (Table 2). Participation in SNAP, TANF, energy assistance, and housing subsidies was higher

among households with children in formal care than informal relative care or non-relative care. One in four parents in the sample reported having a child care subsidy at the time of the survey; however, more households in formal care received subsidies (65.9%) compared to informal relative care (7.6%) or informal non-relative care (14.2%) settings ($p < 0.0001$).

Adjusted Analyses

Parents with children in informal relative care or non-relative care had higher risk of experiencing child care constraints [(aOR 2.44, 95% CI 1.69-3.55); (aOR 4.18, 95% CI 2.57-6.78), respectively] compared to parents with children in formal care (Table 3a). Compared to children in formal care, children in informal non-relative care had increased adjusted odds of living in a food-insecure household (aOR 1.51, 95% CI 1.02-2.26). There were no statistically significant associations between informal relative care and household or child food insecurity. There were also no associations between child care settings and housing instability or energy insecurity.

Additionally, these models were stratified by race/ethnicity (Black non-Hispanic, Hispanic), and nativity (US-born, Immigrant). Cell sizes for white, non-Hispanic and Other/Multiple Races, non-Hispanic mothers were too small to allow for stratified analysis. Black-non-Hispanic mothers with children in informal relative care or non-relative care had higher odds of experiencing child care constraints [(aOR 2.91, 95% CI 1.84-4.61); (aOR 5.07, 95% CI 2.45, 10.48), respectively] compared to parents with children in formal care (Table 3b). Black, non-Hispanic mothers with children in informal non-relative care were also more likely to experience both household (aOR

2.23, 95% CI 1.15-4.33) and child (aOR 3.74, 95% CI 1.80-7.76) food insecurity. In this same group, there was also a borderline significant association (aOR 2.26, 95% CI 1.00-5.08) of increased odds of energy insecurity.

However, results were very different among families with Hispanic mothers (Table 3c). There was a borderline significant association (aOR 2.94, 95% CI 1.00-8.72) of child care constraints among Hispanic mothers using informal non-relative care compared to formal care. No other outcomes had significant associations. Among families with US-born and foreign-born mothers (Tables 3d and 3e) children in informal relative care or non-relative care had higher odds of experiencing child care constraints compared to those with children in formal care. US-born mothers with children in informal non-relative care had greater odds of child food insecurity (aOR 3.50, 95% CI 1.28-9.58) and foreign-born mothers with children in informal non-relative care had greater odds of household food insecurity, though the significance for the latter was borderline (aOR 1.72, 95% CI 0.99, 3.01), compared to those in formal care.

Discussion

Among a sample of low-income families with young children living in Minnesota, a majority utilized informal relative or non-relative child care settings rather than formal child care settings. Program participation in public assistance programs, with the exception of WIC, and use of child care subsidies was overall higher among households with children in formal child care settings. Parents with children utilizing informal relative care or non-relative child care were more likely to experience child care constraints while working or pursuing more

