



Research report

Nutrition practices of nurseries in England. Comparison with national guidelines [☆]



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ABSTRACT

Recent national guidelines call for improved nutrition within early years settings. The aim of this cross-sectional study was to describe foods and beverages served in nurseries, assess provider behaviors related to feeding, and compare these practices to national guidelines. We administered a mailed survey to a random sample of nurseries across England, stratifying by tertile of deprivation. A total of 851 nurseries returned the survey (54.3% response rate). We fitted separate multivariate logistic regression models to estimate the association of deprivation with each of the 13 food and beverage guidelines and the seven provider behavior guidelines. We also conducted a joint F-test for any deprivation effect, to evaluate the effect of the guidelines combined. After adjusting for confounders, we observed differences in the frequency of nurseries that reported serving healthier foods across the tertiles of deprivation ($p = 0.02$ for joint F test). These adjusted results were driven mainly by nurseries in more deprived areas serving more whole grains (OR 1.57 (95% CI 1.00, 2.46)) and legumes, pulses, and lentils (1.40 (1.01, 2.14)). We also observed differences in the frequency of nurseries reporting more provider behaviors consistent with national guidelines across the tertiles of deprivation ($p = 0.01$ for joint F test). Nurseries in more deprived areas were more likely to dilute juice with water (2.35 (1.48, 3.73)), allow children to select their own portions (1.09 (1.06, 1.58)), and sit with children during meals (1.84 (1.07, 3.15)). While nurseries in the most deprived areas reported serving more healthy foods, a large percentage were still not meeting national guidelines. Policy and intervention efforts may increase compliance with national guidelines in nurseries in more deprived areas, and across England.

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Introduction

The number of children attending child care outside of the home in England has grown considerably, from approximately 381,600 in 2003 to 793,400 in 2011 ([Childcare and Early Years Providers Survey 2011, 2012](#)). Given the large number of children in care, recent national reports highlight the need for improved quality and monitoring of early years programs, with some calling for more than minimal nutritional standards for foods and beverages served to children ([Buttivant & Knai, 2012; Childcare and Early Years Providers Survey 2011, 2012; Organix and Soil Association, 2008; Waldegrave and Lee, 2013](#)). Unlike in the United States (US) and Canada, few regulations exist for foods and beverages provided in early years settings in England ([Benjamin, Cradock, Walker, Slining, & Gillman, 2008; Child Care Canada, 2010](#)). Three mandatory regulations govern foods and beverages served to children in child care programs. These regulations state that all meals, snacks, and beverages provided to children in early years settings must be healthy,

balanced and nutritious; food preparers and handlers must be competent; and fresh drinking water must be available to children at all times (Office for Standards in Education Children's Services and Skills, 2013).

In the absence of more specific food- or nutrient-based compulsory regulations, voluntary guidelines have emerged to help influence the nutritional quality of foods and beverages provided to children in early years settings. The Children's Food Trust, a non-profit organization based in the United Kingdom (UK) that provides advice and support to organizations that serve food to children, has recently released two publications. *Laying the Table: Recommendations for National Food and Nutrition Guidance for Early Years Settings in England* (Department for Children, Schools and Families & School Food Trust, 2010) was released in November 2010, and includes recommendations for the development of national guidelines targeting foods and beverages served in early years settings. The follow-up companion *Voluntary Food and Drink Guidelines for Early Years Settings in England* (Children's Food Trust, 2012) was released in 2012. The purpose of the second publication was to develop a clear and unambiguous definition of "healthy, balanced and nutritious" – terms used in the mandatory regulation – in order to ensure uniform implementation of the regulation across early years settings. The Children's Food Trust guidelines, however, are not mandatory; they are suggested voluntary practices within nurseries.

Food provision practices and the nutritional quality of foods and beverages served in child care programs are known to vary considerably (Buttivant & Knai, 2012). Three previous studies examining the quality of meals and snacks in nurseries have found insufficient quantities of healthier foods such as vegetables and oily fish, and excessive amounts of less healthy foods such as processed meats and sugar-sweetened beverages (Moore et al., 2005; Organix and Soil Association, 2008; Parker, Lloyd-Williams, Weston, Macklin, & McFadden, 2011). A recent study in Liverpool, England assessed nutrition practices of nurseries via a mailed survey (Parker et al., 2011). A sub-sample of 34 of the 50 responding nurseries returned copies of their menus for analysis. The researchers compared nutrition practices to recommendations outlined in the Caroline Walker Trust guidelines (Crawley, 2006) – the primary source of guidance at the time the study was conducted, as the Children's Food Trust guidelines had not yet been published. Researchers found that nursery menus listed excessive amounts of high-fat processed meats and insufficient quantities of oily fish.

In a similar study in the North of England, researchers surveyed nearly 200 child care providers by mail and found that just under one half of nurseries and one quarter of childminders (home care providers) served a fruit or vegetable with the main meal each day (Moore et al., 2005). They also reported that 22% of providers did not find government guidance on nutrition helpful or did not know if they found it useful. The researchers highlighted the need for additional provider training in nutrition and food safety, as well as public policy governing the nutritional quality of foods and beverages served to children in early years settings (Moore et al., 2005). A third previous study conducted by Organix and the Soil Association surveyed 487 nurseries from across England (Organix and Soil Association, 2008) and found that fewer than one in five nurseries ever served oily fish and 5% served fizzy drinks. The majority of nursery managers (82%) wanted clearer nutrition guidelines for foods and beverages served to children. However, two of these three previous studies focused on a single geographic area within England and all three studies were conducted more than five years ago. Thus, updated information on dietary intake in early years settings is needed, especially in light of recent guideline publication and a lack of data on a national scale.

Outside of the nursery setting there is limited information on young children's dietary intake in England. In one study of British

children three to four years of age, about one quarter consumed insufficient quantities of vitamin A, iron, and zinc (Rogers et al., 2001). A similar study of 18-month-old children in South West England found that most children consumed inadequate servings of fruits and vegetables, and children's diets were lacking in vitamin D, iron, and zinc (Glynn et al., 2005). In slightly older children, one study noted that sugar-sweetened beverages accounted for 15% of all drinks consumed and 3% of total energy intake for five-year-old children in England (Johnson, Mander, Jones, Emmett, & Jebb, 2007). Similarly, data from the National Diet and Nutritional Survey showed that sugar-sweetened beverages accounted for 3% of total caloric intake in children ages four to six years (Gregory & Lowe, 2000).

These findings raise some concern about the nutritional quality of the diets of preschool-age children. They also highlight the need for additional information about nutrition practices in nurseries, as these settings are becoming increasingly important in shaping the dietary intake of young children outside of the home (Larson, Ward, Neelon, & Story, 2011; Story, Kaphingst, & French, 2006). The purpose of this study was to identify foods and beverages served to children in nurseries in England, and assess provider behaviors that may support and facilitate healthy eating in these settings. We then compared these practices to recent national nutrition guidelines for young children.

Material and Methods

Study overview

For this cross-sectional study, we administered a mailed survey to a stratified random sample of nurseries across England in late 2012 and early 2013. The survey included a fact sheet for the nursery manager stating that completion of the survey constituted consent to participate in the study. All procedures involving human subjects were approved by the University of Cambridge Psychology Research Ethics Committee.

Voluntary food and drink guidelines

For our study, we assessed congruence with 13 guidelines related to restricting or encouraging specific foods and beverages, including: 1) sugary drinks are not served, 2) fizzy drinks are not served, 3) flavoured or sweetened milk is not served, 4) salty snacks are not served, 5) fried meats and fried fish are served sometimes or rarely, 6) high-fat meats are served sometimes or rarely, 7) desserts are served sometimes, 8) fruit is served daily, 9) vegetables are served daily, 10) 100% juice is served at mealtimes only, 11) whole grains are served weekly at lunch, 12) oily fish is served at least weekly at lunch, and 13) pulses, legumes, or lentils are served often. We also assessed agreement with seven care provider behaviors to support children's healthy eating, including: 1) children are not expected to clean their plates, 2) providers seat fussy eaters with good eaters at mealtimes, 3) children are provided with small servings first, with the opportunity to have second helpings if they finish the first, 4) fruit juice is diluted with water with breakfast or lunch, 5) drinking water is available to children, 6) children are encouraged to choose the food they are going to eat for themselves, and 7) providers sit with children during meals whenever possible. We did not assess consistency with guidelines related to children with special diets, food allergies, specific nursery policies (e.g., serving cake on children's birthdays), or communication with families around children's nutritional needs. Finally, we asked managers whether they sought nutrition-related guidance from national reports, and if so, to identify the source. We also asked managers if they believed the compulsory regulation requiring foods and beverages served to be "healthy, balanced and nutritious" was 'too lenient', 'about right', or 'too strict'.

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