Food Insecurity Screening in Pediatric Primary Care: Can Offering Referrals Help Identify Families in Need?

Clement J. Bottino, MD, MPH; Erinn T. Rhodes, MD, MPH; Catherine Kreatsoulas, PhD; Joanne E. Cox, MD; Eric W. Fleegler, MD, MPH

From the Division of General Pediatrics (Dr Bottino and Dr Cox), Division of Endocrinology (Dr Rhodes), Division of Emergency Medicine (Dr Fleegler), Department of Medicine, Boston Children's Hospital, Boston, Mass; Harvard T.H. Chan School of Public Health, Department of Social and Behavioral Sciences (Dr Kreatsoulas), and Department of Pediatrics, Harvard Medical School (Drs Bottino, Rhodes, Cox, and Fleegler), Boston, Mass

Conflict of Interest: Dr Rhodes receives research funding from Merck. The other authors declare that they have no conflict of interest.

Address correspondence to Clement J. Bottino, MD, MPH, Division of General Pediatrics, Department of Medicine, Boston Children's Hospital, 300 Longwood Ave, Boston, MA 02115 (e-mail: clement.bottino@childrens.harvard.edu).

Received for publication June 22, 2016; accepted October 10, 2016.

Abstract

Objective: To describe a clinical approach for food insecurity screening incorporating a menu offering food-assistance referrals, and to examine relationships between food insecurity and referral selection.

Methods: Caregivers of 3- to 10-year-old children presenting for well-child care completed a self-administered questionnaire on a laptop computer. Items included the US Household Food Security Survey Module: 6-Item Short Form (food insecurity screen) and a referral menu offering assistance with: 1) finding a food pantry, 2) getting hot meals, 3) applying for Supplemental Nutrition Assistance Program (SNAP), and 4) applying for Special Supplemental Nutrition Program for Women, Infants, and Children (WIC). Referrals were offered independent of food insecurity status or eligibility. We examined associations between food insecurity and referral selection using multiple logistic regression while adjusting for covariates.

Results: A total of 340 caregivers participated; 106 (31.2%) reported food insecurity, and 107 (31.5%) selected one or more referrals. Forty-nine caregivers (14.4%) reported food insecurity but selected no referrals; 50 caregivers (14.7%) selected one or more referrals but did not report food insecurity; and 57 caregivers (16.8%) both reported food insecurity and selected one or more referrals. After adjustment, caregivers who selected one or more referrals had greater odds of food insecurity compared to caregivers who selected no referrals (adjusted odds ratio 4.0; 95% confidence interval 2.4–7.0).

Conclusions: In this sample, there was incomplete overlap between food insecurity and referral selection. Offering referrals may be a helpful adjunct to standard screening for eliciting family preferences and identifying unmet social needs.

Keywords: children; family preferences; food insecurity; medical home; pediatric; primary care; screening; social needs

Academic Pediatrics 2017;17:497–503

What's New

A menu offering food-assistance referrals identified families who otherwise did not report food insecurity on a standard screen. Food insecurity and referral selection overlapped, but only partially, suggesting a role for eliciting family preferences when screening for social needs.

Food insecurity—that is, uncertain access to adequate food—undermines children's health at every developmental stage.[1] During infancy, food insecurity is associated with developmental delay and hospitalization.[2] Among preschoolers, food insecurity is linked to obesity and behavioral problems.[3] Food insecurity predicts poor academic performance, hyperactivity, and inattention in school-age children.[4] During adolescence, food insecurity is associated with substance abuse and mental illness.[5] Food insecurity acts as a source of toxic stress, increasing the risk of maternal depression and adverse childhood experiences.[6,7] An estimated 1 in 5 US households with children are food insecure, with significant disparities by race and class.[8]

There is emerging consensus on the role of pediatric primary care in addressing social determinants of health.[9] Central to this role is effective identification of specific social needs, including food, housing, and income needs.[9] A number of screening tools for identifying social needs have been developed for pediatric primary care. Examples include WE CARE,[10] the Survey of Wellbeing of Young Children: Family Questions,[11] the Medical-Legal Advocacy Screening Questionnaire,[12] IHELLP,[13] the Health Leads screening tool,[14] and the Bright Futures Pediatric Intake Form.[15]

Most screening tools for social needs identify food insecurity with the item: "I worried whether our food would run

out before we got money to buy more." This item comes from a US Department of Agriculture (USDA) 18-item survey established in 1997 to measure food insecurity at the population level.[16] The USDA survey has been extensively validated and even the aforementioned single item can reliably identify food insecurity.[16,17] A positive screen for food insecurity should logically indicate a need for assistance, perhaps referral to a food pantry or Supplemental Nutrition Assistance Program (SNAP). However, the USDA defines food insecurity as "a household-level economic and social condition."[18] To our knowledge, whether food insecurity indicates family preference for assistance has not been formally evaluated.

Research indicates that family preferences can be elicited by offering a menu of selectable options.[19] The objectives of this study were to describe a clinical approach for food insecurity screening incorporating a menu offering food-assistance referrals, and to examine relationships between food insecurity and referral selection.

METHODS

STUDY DESIGN

We surveyed parent/guardians (hereafter termed "caregivers") of 3- to 10-year-old children visiting a pediatric hospital-based primary care clinic in Boston, Massachusetts, as part of a broader study focused on health-related social problems and diet quality. We chose 3 to 10 years as a range when eating-routine flexibility (lowest in infancy) and parental control (lowest in adolescence) were relatively balanced. Eligibility criteria included: 1) routine visit for 3- to 10-year-old well-child care, 2) caregiver living with the child at least 5 days per week, and 3) caregiver was comfortable taking a survey in English on a computer. Exclusion criteria included children with special health care needs and previous use of the assessment tool. We excluded non-English speakers because the study materials were not available in other languages. We excluded children with special health care needs because of the likelihood of unique dietary requirements.

We obtained informed consent from all participants. The institutional review board at Boston Children's Hospital approved the study.

ASSESSMENT TOOL

Caregivers used The Online Advocate (TOA) (now called HelpSteps), a Web-based self-administered assessment and referral tool for health-related social problems.[20] TOA's core questionnaire consisted of 60 to 80 branching-logic items assessing 7 health-related social domains including household food insecurity. An interactive multidomain referral browser enabled selection from 600+ health and human service agencies located in the Boston area. The system provided user feedback in the form of suggested referrals based on questionnaire responses. Users could also self-select referrals for any agency. Referrals selected from the browser populated a customized Portable Document Format (PDF) file that was printed and provided to the caregiver. The printed referral sheet listed the services provided, contact information, hours of operation, languages spoken, and nearest public transportation for each agency selected. A sample referral sheet is provided in Online Appendix 1.

FOOD INSECURITY SCREEN

Embedded within the TOA core questionnaire was the US Household Food Security Survey Module: 6-Item Short Form. This module evaluates the sufficiency of household funds to obtain food during the previous 12 months. An affirmative response to 2 or more of the 6 items indicates household food insecurity. The module further classifies households in terms of food insecurity status as being either highly food secure (no affirmatives), marginally food secure (1 affirmative), food insecure (ie, low food security; 2–3 affirmatives), or food insecure with hunger (ie, very low food security; 4–6 affirmatives). The 6-Item Short Form has been validated for evaluating household food insecurity in the general population. The module is available in Online Appendix 2.[21]

REFERRAL MENU

After the food insecurity screen was a menu with the heading, "Would you like help with any of the following? Please check all that apply." Referral options included: "finding a food pantry," "getting hot meals," "applying for SNAP benefits (food stamps)," "applying for WIC [Special Supplemental Nutrition Program for Women, Infants, and Children] or help with the WIC office," or "none of these." Referral options were offered universally, independent of food insecurity status, eligibility status, or current receipt of services. Selecting "none of these" was required to advance the menu if no other options were selected. The menu is available in Online Appendix 2.

COVARIATES

Additional questions assessed caregivers' self-reported sex, age, race/ethnicity, education, cohabitation status, employment status, number of children in custody, household income, and receipt of SNAP, WIC, or free/reduced-price school lunch. Receipt was assessed using a menu with the heading, "Does anyone in your family receive any of the following services? Please check all that apply" (Online Appendix 2). Race/ethnicity was categorized as white, black, Hispanic, or other race/ethnicity. Educational attainment was categorized as less than high school, high school diploma or GED, some college or vocational school, and college degree or higher. Household income, as a percentage of the federal poverty level (FPL), was measured according to household size and categorized as less than 100% FPL, 100% to 200% FPL, or more than 200% FPL. Sex and age of the accompanying child were abstracted from the medical record for the well-child visit.

DATA COLLECTION

A research assistant reviewed the daily schedule of well-child visits and recruited eligible families from the clinic