



Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.



# High Level of Food Insecurity among Families with Children Seeking Routine Care at Federally Qualified Health Centers during the Coronavirus Disease 2019 Pandemic

Steven A. Abrams, MD, Ana Avalos, MD, Megan Gray, MD, and Keli M. Hawthorne, MS

**Objective** To assess food insecurity during pediatric visits to federally qualified health centers (FQHCs) during the coronavirus disease-19 pandemic.

**Study design** Interviews using the validated American Academy of Pediatrics 2-question food insecurity screen were performed with 200 consecutive families presenting for pediatric care to 2 FQHC in Central Texas from April 14 to May 20, 2020, during the initial phase of the pandemic in Texas. Brief qualitative interviews were conducted to determine whether families found a worsening of food insecurity during the pandemic.

**Results** Overall, 47% of families had a positive food insecurity screen. More than 90% of these were worrying about food running out and about 60% were positive for the question related to food not lasting. Among families with food insecurity, 94% indicated this had begun or worsened during the pandemic. Of the 115 families volunteering information about employment, 46% reported job loss during this time period. Both ethnicity ( $P < .001$ ) and Special Supplementation Nutrition Program for Women, Infants and Children (WIC) participation ( $P = .03$ ) were associated with greater levels of food insecurity. Among primarily Spanish-speaking families participating in the WIC program, 64% reported food insecurity.

**Conclusions** Approximately one-half of families receiving routine pediatric care at a FQHC during the coronavirus disease-19 pandemic reported food insecurity and this was associated with loss of jobs during the pandemic. Participation in the WIC program was not protective against food insecurity. Increased frequency of food insecurity was detected in Hispanic and Spanish-speaking families. Screening of families at an FQHC should be strongly considered as a part of routine pediatric care. Knowledge of community resources is important for providers to share with patients. (*J Pediatr*: X 2020;4:100044).

**Trial Registration** [ClinicalTrials.gov: NCT04378595](https://clinicaltrials.gov/ct2/show/study/NCT04378595)

Food insecurity is defined as the limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways.<sup>1</sup> The lack of food security is a well-known detrimental factor to a child's mental and physical health, and has been associated with higher emergency department visits, school absenteeism, and lower access to health care.<sup>2,3</sup> Surveys within the past 10 years have found that 10%-20% of children in the US live in a food insecure household.<sup>4,5</sup>

Food insecurity disproportionately affects children in black and Hispanic households and contributes to poorer health outcomes across their lifespan.<sup>5,6</sup> The American Academy of Pediatrics (AAP) recommends screening for food insecurity at scheduled health maintenance visits and to consider screening at all visits with a validated 2-question food insecurity screening tool.<sup>1,2,4</sup>

The prevalence of food insecurity also has been reported higher than the state level prevalence in households impacted by disasters.<sup>7</sup> The international spread of the new coronavirus severe acute respiratory distress syndrome coronavirus 2, has led to unprecedented health, economic, and social impacts.<sup>8,9</sup> In Travis County, the earliest onset of the coronavirus disease 2019 (COVID-19) illness was on March 3, 2020, and a stay-at-home order was issued 22 days later.<sup>10</sup> Shelter-in-place measures consequently caused an increase in unemployment and loss of wages.<sup>11</sup> Niles et al found that during the COVID-19 pandemic food insecurity increased by as much as 33% (18%-24%) in Vermont.<sup>12</sup> They also found that households that were more likely to suffer from food insecurity included those with children, low income, larger households, and female respondents. Furthermore, reports in the media suggest that food insecurity is increasing throughout the country.<sup>13</sup>

AAP	American Academy of Pediatrics
COVID-19	Coronavirus disease 2019
FQHC	Federally qualified health center
SNAP	Supplemental Nutrition Assistance Program
WIC	Special Supplementation Nutrition Program for Women, Infants and Children

From the Dell Medical School, Dell Pediatric Research Institute, Department of Pediatrics, University of Texas at Austin, Austin TX.

The authors declare no conflicts of interest.

2590-0420/© 2020 The Authors. Published by Elsevier Inc. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).  
<https://doi.org/10.1016/j.ympdx.2020.100044>

We sought to identify the rate of food insecurity in a population of families receiving routine pediatric care at 2 locations of the largest federally qualified health centers (FQHCs) in Austin, Texas. This network of health centers is the largest safety net provider within Central Texas, serving more than 116 000 patients in 2019, of which 37 500 were under the age of 18 years. More than 65% of the pediatric patients have Medicaid insurance; the remainder pay via a sliding fee scale.

Our goal was to use a rapidly administered 2-question screening tool and then to conduct brief qualitative interviews to determine how the pandemic had affected families' food insecurity. We hypothesized that rates of food insecurity would be high, as much as 50%, and that physicians would be able to detect this increase using the aforementioned 2-question validated screening tool during regularly scheduled pediatric visits.

## Methods

Two pediatricians at different FQHC clinics in Austin, Texas, administered the 2-question food insecurity survey to parents and caregivers of pediatric patients as part of their AAP-recommended standard of care during routine pediatric visits. Data were recorded for 200 sequential families during the COVID-19 pandemic, from April 14, 2020, to May 20, 2020. No patient-specific data were identifiable. Data were recorded during pediatric patient visits, whether in person or via telehealth on the phone. Interviews were conducted in families' preferred language using interpretation services for languages other than English or Spanish.

In addition to food insecurity, pediatricians documented the patients' age, sex, race/ethnicity, number of household members (children and adult), and participation in 2 of the most common community resource programs: The Supplemental Nutrition Assistance Program (SNAP) and the Special Supplementation Nutrition Program for Women, Infants and Children (WIC). A waiver of consent was obtained, and the study was approved by the Health Sciences Panel of the Institutional Review Board at the University of Texas at Austin.

To assess food insecurity, the pediatricians used the 2-question validated food insecurity tool recommended by the AAP.<sup>1,2</sup> The respondent was asked verbally to respond to 2 statements by indicating whether that statement was often true, sometimes true, or never true in their household during the last 12 months, including the past 1-2 months. The first statement was, "We worried whether our food would run out before we got money to buy more." The second was, "The food we bought just didn't last, and we didn't have money to get more." A response of often true or sometimes true to either statement indicates a positive screen for food insecurity. To assess the impact of the current COVID-19 pandemic, the pediatricians also asked the following question if there was a positive response to either of the initial questions: "If yes, did this start or worsen in the past 1 to 2 months?"

If the parent/guardian responded with a positive screen for food insecurity, the pediatrician referred the family to available community resources, as is the usual standard of care. Resources included a local guide to food banks, 211 resources, and United Way resources, as well as information about accessing SNAP and WIC benefits. A guide to additional emergency food distribution points specifically set up during the COVID-19 crisis also was provided. Families with multiple needs or difficulty accessing resources were also referred to clinic community health workers for further guidance.

The pediatricians also performed a brief qualitative interview as part of the standard of care to determine whether families found a worsening of food insecurity during the pandemic. Information that was volunteered by families such as concern about food shortages and job loss or reduced hours was recorded.

Data were analyzed using SPSS Version 26 (SPSS Inc, Chicago, Illinois). Differences in outcome based on demographics were analyzed using general linear modeling after identifying a lack of interaction among terms.

## Results

Following the pandemic guidelines from the AAP, well-child care during the early stages of the COVID-19 crisis was initially limited to children 18 months and under in need of vaccines during well visits. Later during the pandemic, older children were included again in well-child care visits. Thus, the sample was mostly children under the age of 2 years. Five visits (2%) took place over the phone; all others were in person.

In all, 200 families were interviewed. There were no significant differences in results based on which FQHC the children were seen at (54% vs 41%;  $P = .08$ ). Overall (Table I), 82% self-identified as Hispanic. Among these Hispanic families, 84.1% were primarily Spanish speaking and 15.2% were English speaking; 1 participant (0.5%) was not identified.

Overall, 47% of families reported food insecurity based on the screening tool. Most families indicated their food insecurity occurred sometimes, and only about 10% of the food insecure families reported it was often a problem (Table II). More than 90% of these were positive for worrying about food running out, whereas about 60% were positive for the question related to food not lasting. Among families with food insecurity, 94% indicated this had begun or worsened during the pandemic. In a model with ethnicity of the family, sex, and WIC participation as covariates, both Hispanic ethnicity ( $P < .001$ ) and WIC participation ( $P = .03$ ), but not sex ( $P = .13$ ) were significantly associated with food insecurity.

In considering only Hispanic families, primary language was significant ( $P = .001$ ), with food insecurity reported by 59% of the 138 Spanish-speaking and 24% of the 25 English-speaking families (Table III). Among Hispanic families, when WIC participation was included as a

**Table I. Characteristics of study families**

Variables	Frequency (%)
Total	200 (100)
Interviewer	
A	107 (53.5)
B	93 (46.5)
Sex	
Female	86 (43.0)
Male	114 (57.0)
No. of other children <6 years old at home	
0	110 (55.0)
1	77 (38.5)
2	10 (5.0)
>2	2 (1.0)
No data	1 (0.5)
No. of other household members	
1	14 (7.0)
2	128 (64.0)
>2	57 (28.5)
No data	1 (0.5)
Patient ethnicity	
Hispanic	164 (82.0)
Non-Hispanic	35 (17.5)
No data	1 (0.5)
Primary language of parent/caregiver	
English	40 (20.0)
Spanish	138 (69.0)
Other*	21 (10.5)
No data	1 (0.5)
WIC participation	
Yes	59 (29.5)
No	141 (70.5)
SNAP participation	
Yes	48 (24.0)
No	150 (75.0)
No data	2 (1.0)

\*Other languages include: Arabic (n = 6), Nepali (n = 3), Pashto (n = 3), Mandarin (n = 1), French (n = 1), Farsi (n = 1), Tigrinya (n = 1), Dari (n = 1), Burmese (n = 1), Kinyarwanda (n = 1), and Amharic (n = 1).

covariate, primary language remained significant ( $P = .04$ ). Overall, among non-English-speaking Hispanic families participating in WIC, 64% were food insecure, compared with 47% of the entire sample.

From the entire group, 115 families volunteered additional information. When asked about food insecurity, 53 families (46%) reported job loss, interruption, or reduction. Ten families reported that concerns about food availability were due to shortages and empty shelves rather than loss or reduction of income. Because the validated food insecurity questionnaire was designed to reflect financial burdens, families who indicated that their concerns about food availability

**Table II. Responses to food insecurity questions**

Statements	Response	Frequency (%)
We worried about whether our food would run out before we got money to buy more.	Never true	111 (55.5)
	Sometimes true	81 (40.5)
	Often true	8 (4.0)
The food we bought just didn't last, and we didn't have money to get more.	Never true	139 (69.5)
	Sometimes true	54 (27.0)
	Often true	7 (3.5)

**Table III. Relationship between family characteristics and any food insecurity**

Variables	Food insecurity (%)	P value*
Total	47	–
Sex		
Female	43	.33
Male	50	
No. of other children <6 years old at home		
0	42	.13
1	49	
2	80	
>2	50	
Patient ethnicity		
Hispanic	54	<.001
Non-Hispanic	14	
Primary language of parent/caregiver		
English	20	<.001
Spanish	59	
Other†	14	
WIC participation		
Yes	52	.016
No	34	
SNAP participation		
Yes	42	.27
No	49	

\*P values are univariate analysis of variance for the variable shown.

†Other languages include Arabic (n = 6), Nepali (n = 3), Pashto (n = 3), Mandarin (n = 1), French (n = 1), Farsi (n = 1), Tigrinya (n = 1), Dari (n = 1), Burmese (n = 1), Kinyarwanda (n = 1), and Amharic (n = 1).

were due to shortages and empty shelves were not counted as positive for food insecurity.

One family reported they did not know WIC was available for visits over the phone during the COVID-19 pandemic, and another mother reported that she did not know WIC was available for breastfeeding mothers. One family reported not using WIC or SNAP because of fear about the public charge rule impacting their immigration status. Two families reported getting meals from school during the stay-at-home time period.

## Discussion

We found a high rate of food insecurity during the COVID-19 pandemic in our predominantly Hispanic pediatric population seeking routine pediatric health care at a FQHC in Austin, Texas. Although it was not possible to determine a precise number whose food insecurity began with the current pandemic, virtually all of the families indicated that their food insecurity concerns had begun or worsened during the pandemic. As this study was conducted relatively early (4–8 weeks after most businesses had closed), it is likely that the approximate 50% food insecurity rate will increase over time as family financial resources worsen. Food insecurity was well above the usual 20%–25% rate expected among high-risk families with children, twice the child food insecurity rate in Travis County in 2017, and almost 4 times that of US households reported by the US Department of Agriculture in 2018.<sup>4,5,14</sup> This finding was expected, given the underlying health disparities of the community seen at our clinics, as well as the socioeconomic impact of the COVID-19 pandemic.

High rates of food insecurity were found despite the fact that most families (80%) received WIC benefits and about 20% received SNAP benefits. These public assistance programs were developed to help mitigate the harmful impacts of food insecurity, and indeed they served their purpose in a few families. However, these programs are supplemental and were unable to provide food security to most families in such a precarious situation compounded by widespread job loss. An additional source of assistance frequently mentioned by households with older children was the school food programs, which continued during school closures.

More than one-half of families receiving WIC benefits were food insecure. This relationship was not found for families who were receiving SNAP assistance. The reason for this is unclear, but it may reflect that food insecure households with small children are in most need of services from WIC. Unlike WIC, families that access SNAP services are, with some exceptions, required to have a legal immigrant status.<sup>15</sup> Although immigrant status was not recorded in this study, both of the FQHC sites where this study was conducted serve a large portion of undocumented families. Moreover, of these 2 programs, SNAP is the only one listed as a public benefit considered under the public charge rule.<sup>16</sup>

Some families who screened positive for food insecurity and were eligible for benefits were not accessing the available resources, including food banks. Anecdotally, reasons for this finding included language barriers, missed appointments, lack of transportation, and fear and uncertainty about the public charge rule.<sup>17</sup> Lack of transportation was an underlying determinant that worsened during the COVID-19 pandemic. Families reliant on bus routes to access grocery stores may have curtailed their use by choice or decreased availability of routes, and families using neighbors' or friends' vehicles may not have had this option as readily available owing to social distancing restrictions. Past research suggests that lower use of services is also related to cultural barriers, demographic disparities, and socioeconomic status.<sup>18</sup> Further studies are needed to determine the degree to which transportation barriers may have affected food access during the COVID-19 pandemic.

Food insecurity was more likely to be reported in Hispanic families. This finding is consistent with previous research in which immigrant status and language barriers help to explain the racial and health disparities.<sup>18</sup> When considering only Hispanic families, primary language was a significant factor for food insecurity, which is also in agreement with previous findings. Avila et al determined that Hispanic children in non-English-speaking households consistently presented with poorer overall health than Hispanic children of English-speaking families.<sup>18</sup> Understandably, language barriers hinder effective communication and may impair full understanding of community resources and access to health-care.<sup>19</sup>

In our cohort, non-Hispanic families were a broad mix of African, Black, Middle Eastern, and Caucasians and represented about 20% of the total families screened. The lower food insecurity rate of the non-Hispanics could represent

an unwillingness to answer questions positively owing to cultural perspectives. In addition, in this cohort, most non-Hispanic patients have a refugee legal status, and as such may be able to find better jobs and access more resources.

An affirmative response to the food insecurity screen has been reported to yield a sensitivity of 97% and specificity of 83%-86%.<sup>2,20</sup> Urke et al found that, when screening adults, the second question alone—whether food did not last before families had money to buy more—had a sensitivity of 93% and a specificity of 93.4%.<sup>21</sup> Yet Barnidge et al found that only 15% of pediatricians said that they screen patients for food insecurity, citing time constraints, the desire to avoid embarrassing families, or gap in practitioner knowledge of next steps for a positive screen, such as community resources referrals.<sup>22,23</sup> It has been reported that food insecurity is greatest among recent immigrant families and overall, levels of food insecurity among these families was approximately 25%.<sup>24</sup> In addition, several studies have identified that Hispanic and non-English-speaking populations are at a greater risk for health disparities.<sup>18,19,25</sup>

Nearly all cases of food insecurity were identified by the first question related to worrying about adequate food as a future concern that may or may not bear out in reality. As a single question, this item has been found to have a sensitivity of 94.4% and specificity of a 72.2%. Because we were looking to screen in the early phase of the event, sensitivity was more important than specificity in helping us to identify all households potentially in need of assistance.

Food insecurity has been associated with the amount of household food supplies, maternal education, and household past experience of food insufficiency during childhood.<sup>26,27</sup> However, we did not consider worrying about food insufficiency as a positive answer when it was due to supply shortages in stores during the COVID-19 pandemic, because the validated tool is based on financial burdens. Of the families who volunteered information, 8% stated fear of "running out of food" owing to "empty shelves." Only 1 of those 16 families had a positive food insecurity screen.

The response to the second question, which represents what actually occurred, that is, running out of food, when asked as a single question, has been reported by Urke et al to be the item with most sensitivity and specificity out of the original 18-item food insecurity survey.<sup>21,28</sup> The rate of positive responses to this question was lower but still represented a large proportion of the families. This finding may reflect an early phase response sequence where worry about food was preceding any actual lack of available food.

Our study has several limitations. Because both clinics serve a majority of Hispanic households, our results reflect a vast majority of Hispanic participants, which may not represent the city's demographic. A greater number of non-Hispanic families need to be studied for a more conclusive result related to ethnicity. Although the pediatric population we provide service to ranges from birth through 17 years of age, during the pandemic we followed local and state recommendations that changed patients' appointments. Initially, cancelling appointments and following the AAP guidelines

limited the well-child checks to children 18 months of age or younger. Consequently, the majority of patients were under 2 years of age and do not reflect the usual age range seen in our clinics. Additionally, pediatric clinics nationally have experienced cancellations of visits or no-shows during the COVID-19 pandemic, and data from the Centers for Disease Control and Prevention show decreasing vaccination rates across the country.<sup>29</sup> Food insecurity has been associated with missed health supervision visits, even before this pandemic.<sup>30</sup>

Families maintaining visits for well-child checks may have had certain protective characteristics that allowed them to maintain those visits, namely, better food access, access to transportation, increased family support, or the ability to take time off of work. Families missing visits may be at even greater risk for food insecurity, indicating that our results may skew lower than the actual needs in the Central Texas area. Last, most questions were asked in person compared with telephone or written surveys. We noticed some families were reluctant to answer such personal and emotional questions regarding food security.

We witnessed a range of emotions as we addressed food insecurity with families. We found, however, that most parents seemed appreciative as the questions were a way for the provider to build trust in the therapeutic relationship and to offer families resources for additional needs they identified.

This study underscores the importance of screening for food insecurity during a health crisis such as the COVID-19 pandemic. Quality pediatric care requires a multilanguage platform, whether through interpreting services or bilingual physicians, within a culturally competent medical home setting. Knowledge of community resources is critical for the provider to be able to share such information with patients. ■

*We thank Hannah R. Abrams, MD, and Isabella Avalos for assistance with preparation of the article.*

Submitted for publication Jun 8, 2020; last revision received Jun 17, 2020; accepted Jun 18, 2020.

## References

- Ashbrook A, Hartline-Grafton H. Addressing food insecurity: a toolkit for pediatricians. Washington DC, Food Research & Action Center. <https://frac.org/wp-content/uploads/frac-aap-toolkit.pdf>. Accessed May 1, 2020.
- Hager ER, Quigg AM, Black MM, Coleman SM, Heeren T, Rose-Jacobs R, et al. Development and validity of a 2-item screen to identify families at risk for food insecurity. *Pediatrics* 2010;126:e26-32.
- Peltz A, Garg A. Food Insecurity and Health Care Use. *Pediatrics* 2019;144:e20190347.
- Council on Community Pediatrics; Committee on Nutrition. Promoting food security for all children. *Pediatrics* 2015;136:e1431-8.
- Coleman-Jensen A, Rabbitt MP, Gregory CA, Singh A. Household food security in the United States in 2018. US Department of Agriculture, Economic Research Service, Economic Research Report No. (ERR-270). <https://www.ers.usda.gov/publications/pub-details/?pubid=94848>. Accessed May 5, 2020.
- Gundersen C, Ziliak JP. Food insecurity and health outcomes. *Health Aff* 2015;34:1830-9.
- Clay LA, Ross AD. Factors associated with food insecurity following Hurricane Harvey in Texas. *Int J Environ Res Public Health* 2020;17:762.
- Nicola M, Alsafi Z, Sohrabi C, Kerwan A, Al-Jabir A, Iosifidis C, et al. The socio-economic implications of the coronavirus and COVID-19 pandemic: a review. *Int J Surg* 2020;78:185-93.
- Joint Mission. Report of the WHO-China Joint Mission on Coronavirus Disease 2019 (COVID-19). <https://www.who.int/docs/default-source/coronaviruse/who-china-joint-mission-on-covid-19-final-report.pdf>. Accessed May 20, 2020.
- County Judge of Travis County. County Judge Order No. 2020-5: Relating the Declaration Regard COVID-19 (Stay Home, Work Safe Order). <http://austintexas.gov/sites/default/files/files/20200324%20Judge's%20Order.pdf>. Accessed May 8, 2020.
- Dey MD, Loewenstein MA. How many workers are employed in sectors directly affected by COVID-19 shutdowns, where do they work, and how much do they earn?. <https://doi.org/10.21916/mlr.2020.6>. Accessed May 20, 2020.
- Niles MT, Bertmann F, Morgan EH, Wentworth T, Biehl E, Neff R. The impact of coronavirus on Vermonters experiencing food insecurity. University of Vermont, College of Agriculture and Life Sciences Faculty Publications. <https://scholarworks.uvm.edu/calsfac/19>. Accessed May 28, 2020.
- Corrado K. New efforts to combat food insecurity in NYC amid COVID-19 outbreak. <https://www.pix11.com/news/coronavirus/new-efforts-to-combat-food-insecurity-in-nyc-amid-covid-19-outbreak>. Accessed May 5, 2020.
- Food Insecurity in Travis County. <https://map.feedingamerica.org/county/2017/overall/texas/county/travis>. Accessed May 20, 2020.
- USDA Food and Nutrition Service. Supplemental Nutrition Assistance Program (SNAP) Eligibility. <https://www.fns.usda.gov/snap/recipient/eligibility>. Accessed May 28, 2020.
- US Citizenship and Immigration Services. Public Charge. <https://www.uscis.gov/green-card/green-card-processes-and-procedures/public-charge>. Accessed May 28, 2020.
- Bernstein H, McTarnaghan S, Gonzalez D. Safety net access in the context of the Public Charge Rule: voices of immigrant families. [https://www.urban.org/sites/default/files/publication/100754/safety\\_net\\_access\\_in\\_the\\_context\\_of\\_the\\_public\\_charge\\_rule\\_2.pdf](https://www.urban.org/sites/default/files/publication/100754/safety_net_access_in_the_context_of_the_public_charge_rule_2.pdf). Accessed May 20, 2020.
- Avila RM, Bramlett MD. Language and immigrant status effects on disparities in Hispanic children's health status and access to health care. *Matern Child Health J* 2013;17:415-23.
- Flores G, Tomany-Korman SC. The language spoken at home and disparities in medical and dental health, access to care, and use of services in US children. *Pediatrics* 2008;121:e1703-14.
- Gattu RK, Paik G, Wang Y, Ray P, Lichenstein R, Black MM. The hunger vital sign identifies household food insecurity among children in emergency departments and primary care. *Children (Basel)* 2019;6:107.
- Urke HB, Cao ZR, Egeland GM. Validity of a single item food security questionnaire in Arctic Canada. *Pediatrics* 2014;133:e1616-23.
- Barnidge E, LaBarge G, Krupsky K, Arthur J. Screening for food insecurity in pediatric clinical settings: opportunities and barriers. *J Community Health* 2017;42:51-7.
- Palakshappa D, Douppnik S, Vasan A, Khan S, Seifu L, Feudtner C, et al. Suburban families' experience with food insecurity screening in primary care practices. *Pediatrics* 2017;140.
- Bovell-Ammon A, Cuba SE, Coleman S, Ahmad N, Black MM, Frank DA, et al. Trends in food insecurity and SNAP participation among immigrant families U.S.-born young children. *Children (Basel)* 2019;6:55.
- Yu SM, Huang ZJ, Schwalberg RH, Nyman RM. Parental English proficiency and children's health services access. *Am J Public Health* 2006;96:1449-55.
- Matheson DM, Varady J, Varady A, Killen JD. Household food security and nutritional status of Hispanic children in the fifth grade. *Am J Clin Nutr* 2002;76:210-7.

27. Kaiser LL, Melgar-Quiñonez H, Townsend MS, Nicholson Y, Fujii ML, Martin AC, et al. Food insecurity and food supplies in Latino households with young children. *J Nutr Educ Behav* 2003;35:148-53.
28. Bickel G, Nord M, Price C, Hamilton W, Cook J. Guide to measuring household food security, revised 2000. Alexandria (VA): US Department of Agriculture, Food and Nutrition Service. 2000.
29. Santoli JMLM, DeSilva MB, Kharbanda EO, Daley MF, Galloway L, et al. Effects of the COVID-19 pandemic on routine pediatric vaccine ordering and administration — United States, 2020. Centers for Disease Control and Prevention. *MMWR Morb Mortal Wkly Rep* 2020;69:591-3.
30. Shi Q, Castillo F, Viswanathan K, Kupferman F, MacDermid JC. Facilitators and barriers to access to pediatric medical services in a community hospital. *J Prim Care Community Health* 2020;11. 2150132720904518.