Food Insecurity during the Perinatal Period: A Policy Brief for Community and Clinical Health Care Providers

Community and clinical health care providers must help identify women and families at risk for food insecurity during the perinatal period and them to necessary resources to help assure access to nutritious food during this critical life stage and beyond.

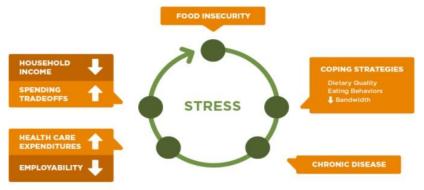
Summary of Findings

- Food Insecurity is a public health crisis affecting more than 35 million Americans.
- Food Insecurity during pregnancy is associated with negative long-term health, social, emotional, and financial impacts on both mother and child.
- Food Insecurity is not commonly screened for during pregnancy.

Background

It is widely understood that the foods one consumes over a lifetime impacts overall health. However, for many Americans, food quality is not a personal choice, but rather a consequence of food insecurity. Food insecurity is defined as the state of being without reliable access to a sufficient quantity of affordable, nutritious food to live a healthy and active life (1). Food insecurity is a national health crisis, as those who experience food

A Conceptual Framework: Cycle of Food Insecurity & Chronic Disease



insecurity throughout their lifetime are more likely to remain in the vicious cycle of generational poverty, increased risk of chronic disease manifestation, and overall poor quality of life (1). In 2019, more than 35 million peoplein the United States experienced hunger (2). With the addition of the coronavirus

pandemic in 2020, projections increased to more than 42 million people who had experienced food insecurity, with the greatest impact on those who were already food insecure or were at risk for food insecurity prior to COVID-19 (1). The impact of the pandemic was especially felt on expectant mothers, as high-quality foods are vital for the appropriate gestational development.

Therefore, the effects of food insecurity can have negative consequences not only on the mother but also on the infant, the birth, and successful breastfeeding outcomes. In fact, studies show this stress in utero can lead to long-term negative outcomes for children such as cognitive delays, attention disorders, trouble in school and emotional problems.

Food Insecurity Impacts on Perinatal Outcomes

Women who identify as food insecure during the perinatal period are more likely to experience:

- Increased risk of maternal depression and increased stress response (3)
- Increased maternal incidence of high maternal weight gain, gestational diabetes, hypertension, preeclampsia, and anemia (iron deficiency) (4)
- Increased risk of maternal and infant death (5)
- Increased risk of infant preterm birth (6)
- Increased incidence of infant low birth weight (7)
- Increased risk of birth defects in infant (8)
- Increased healthcare costs (9)
- Decrease in successful breastfeeding outcomes (10)



The Landscape of Food Equity

During the Great Depression, the federal government first played a role in addressing hunger through early public health campaigns aimed on educating homemakers to stretch their resources (11). Special considerations were not extended to women of child-bearing age until 1972, when WIC (which stands for Women, Infants, and Children) was established through USDA. WIC helps low-income pregnant and postpartum women, as well as children up to age five. WIC does have qualifiers, which include having an income beneath 185% of the poverty line or participation in other state or county assistance programing, such as Medicaid (12). WIC has a well-documented trajectory of success, where decreases have been seen in infant birth weight and prematurity for all women regardless of their ethnicity and start date of prenatal care, while simultaneously providing beneficial cost-savings (13, 14).

Though WIC is a valuable program, it does not capture all food insecure women. In fact, it is estimated that only 3 out of every 5 people who meet qualifications are actually enrolled in the program (15). Many barriers prevent WIC participation, which may include:

- Misconceptions of who is or is not WIC eligible (particularly regarding low-wage working families and immigrants).
- Transportation, loss of time away from work (income), and other costs to reach WIC clinics for mandatory counseling and associated benefits.
- Income exceeds WIC criteria while still remaining food insecure ("gap" pregnancies).
- Dislike and distrust of WIC federal programming.

Given these and many more barriers, multiple strategies should be implemented to make sure that nutritional status is being met during the perinatal period and beyond.

Food Insecurity by Race and Ethnicity

Food insecurity rates are higher among female-led African American, Native American, and Latina households than among female-led white households

For more than 20 years food insecurity has been monitored by the USDA. However one trend that has been persistent is that disparity exists based on race and ethnicity. An analysis for foodinsecurity from 2001 and 2016 found that food insecurity rates for both non-Hispanic Black and Hispanic households were at least twice that of non-Hispanic white households (16). As per the census data analyzed in 2019, it was found

that 10.5% of households with one or more children were food insecure. The percentage of households with food-insecure children was higher for female-headed households (28.7%); Black, non-Hispanic households (19.1%) (2). Food insecurity may be described as dynamic and complex. The main contributors for the disparity listed above include but may not be limited to difficulty meeting basic needs, job instability, and vulnerabilities specific to pregnancy, infancy, and immigration. Studies have indicated that Hispanic families, especially immigrants, have unique vulnerabilities that influence their experience and ability to cope. Sometimes the choice is between buying food or sending moneyto their home countries (17).

Recommendations

Addressing food insecurity during pregnancy should be of paramount importance to all of those who work in the prenatal/perinatal realms. Children who are born to food insecure homes often start out life at a disadvantage, allowing food insecurity to be one of the leading national public health issues (18). Though the outcomes have been well-documented showing the increased burden of poor birth outcomes and an increase in adverse long-term health impacts, few health systems have initiated assessment and other programming to address food insecurity during pregnancy.

Below are recommendations that should be considered when working with this demographic to allow for equity and opportunity for our most vulnerable populations.

Implement Food Insecurity Screeners

Due to the high prevalence of food insecurity in pregnancy, it is recommended that screeners be implemented in prenatal/perinatal clinical settings to identify those at risk. Many nutritional screeners exist and can be used depending on the demographic served. An example of one adapted and developed by the American Academy of Pediatrics is the Hunger Vital Sign, which is a two item screener that has been validated for the young children, adolescents, and adults.

For continuity of care, it also may be recommended to document in the EHR/EMR assessments and intervention strategies suggested to those with food insecurity, to address at further appointments for follow through.

Connect Families to Community Resources

When food insecurity has been identified, clinicians should be able to provide resources and/or referrals for families in need. Due to barriers, a variety of resources should be available for families as each case will be individualized. Therefore, it is beneficial for clinics to have multiple relationships and resources. Below is a small list of national supports:

- Local WIC offices
- Local SNAP (Supplemental Nutrition Assistance Program) Resources
- Local Dietetic Organization groups
- Feeding America and other local food banks
- WhyHunger and other local community partners, faith-based organizations, and nonprofits that address hunger

Advocate with Key Stakeholders

It takes a village to raise a child. When possible, clinicians and community clinics should create relationships with other key partners and stakeholders so that federal, state, and local policies support access to adequate and healthy foods. Look for opportunities to get involved through clinicians organizational bodies (ACOG, AAP, AAFP, NSNA, etc.), places of employment, local hospitals and community clinics, and other non-profit organizations that look to make an impact through policy.

Suggested Citation:

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References:

- 1. Feeding America. What is Food Insecurity? Available online at: https://www.feedingamerica.org/hunger-in-america/food-insecurity.
- 2. Coleman-Jensen A, Rabbitt M, Gregory C, Singh A. *Household Food Security in the US 2019*. Available online at: https://www.ers.usda.gov/publications/pub-details/?pubid=99281
- 3. Richterman A, Raymonville M, Hossain A, Millien C, Joseph, JP, Jerome G, Franke MF, Ivers LC. Food insecurity as a risk factor for preterm birth: a prospective facility -based cohort study in rural Haiti. *BMJ Journals*. 2020; 5(7). Available online at: https://gh.bmj.com/content/bmjgh/5/7/e002341.full.pdf.
- 4. Pan, Liping et al. Food insecurity is associated with obesity among US adults in 12 states. *Journal of the Academy of Nutrition and Dietetics*. 2012; 112(9): 1403-1409. Accessed online at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4584410/.
- 5. Maternal Nutrition and Infant Mortality in the context of Relationality. MC Lu, JS Lu 2007 aucd.org. Accessed online at : im-maternalnutrition.lu.pdf (aucd.org)
- 6. Sandoval VS, Jackson A, Saleeby E, Smith L, Schickedanz A. Associations Between Prenatal Food Insecurity and Prematurity, Pediatric Health Care Utilization, and Postnatal Social Needs. *Acad Pediatr.* 2021; 21(3):455-461. Accessed online at: <u>Associations Between Prenatal Food Insecurity and Prematurity, Pediatric Health Care</u> Utilization, and Postnatal Social Needs - PubMed (nih.gov)
- Cook JT, Frank DA, Berkowitz C, Black MM, Casey PH, Cutts DB, Meyers AF, Zaldivar N, Skalicky A, Levenson S, Heeren T, Nord M. Food insecurity is associated with adverse health outcomes among human infants and toddlers. *J Nutr.* 2004; 134(6):1432-8. Accessed online at: Food insecurity is associated with adverse health outcomes among human infants and toddlers PubMed (nih.gov)
- Carmichael SL, Yang W, Herring A, Abrams B, Shaw GM. Maternal food insecurity is associated with increased risk of certain birth defects. *J Nutr.* 2007; 137(9):2087-92.
 Accessed online at: Maternal Food Insecurity Is Associated with Increased Risk of Certain Birth Defects (nih.gov)
- Berkowitz SA, Seligman HK, Meigs JB, Basu S. Food insecurity, healthcare utilization, and high cost: a longitudinal cohort study. *Am J Manag Care*. 2018; 24(9):399-404.
 PMID: 30222918; PMCID: PMC6426124. . Accessed online at: <u>Food Insecurity</u>, <u>Healthcare Utilization</u>, and <u>High Cost</u>: A <u>Longitudinal Cohort Study (nih.gov)</u>
- 10. Dinour LM, Rivera Rodas EI, Amutah-Onukagha NN, Doamekpor LA. The role of prenatal food insecurity on breastfeeding behaviors: findings from the United States pregnancy risk assessment monitoring system. *Int Breastfeed J.* 2020;15(1):30. Accessed online at: <a href="https://doi.org/10.2002/jheart-
- 11. Shrank WH, Keyser DJ, Lovelace JG. Redistributing Investment in Health and Social Services—The Evolving Role of Managed Care. *JAMA*. 2018; 320(21): 2197–2198.

- Accessed online at: https://jamanetwork.com/journals/jama/article-abstract/2712365.
- 12. National WIC Association. *WIC Program Overview and History*. Available online at: https://www.nwica.org/overview-and-history
- 13. Figlio D, Hamersma S, Rith J. Does prenatal WIC participation improve birth outcomes? New evidence from Florida. *Journal of Public Economics*. 2009; 93: 235-245.
- 14. Nianogo R, Wang M, Basturo-Davila R, Nobari T, Prelip M, Arah O, Whaley S. Economic evaluation of California prenatal participation in the special supplemental nutrition program for Women, Infants, and Children (WIC) to prevent preterm birth. *Journal of Preventive Medicine*. 2019; 124:42-49. Accessed online at: https://doi.org/10.1016/j.ypmed.2019.04.011.
- 15. Food Research & Action Center. *Making WIC Work Better: Strategies to Reach More Women and Children and Strengthen Benefits Use.* 2019. Accessed online at: https://frac.org/wp-content/uploads/Making-WIC-Work-Better-Full-Report.pdf
- 16. Patterson, Joanne G., et al. Disparities in food insecurity at the inter section of race and sexual orientation: A population-based study of adult women in the United States. *SSM-population health.* 2020; 12: 100655.
- 17. Gross, Rachel S., et al. Food insecurity during pregnancy and breastfeeding by low-income Hispanic mothers. *Pediatrics*. *2019*; 143.
- 18. Thousand Days. The Issues. Accessed online at: https://thousanddays.org/the-issues/.