

Food Security Status in Pregnancy Complicated by Diabetes During COVID-19 and Diabetes Self-Care Behaviors

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Background

- In 2020 during the COVID-19 pandemic, 10.5% (13.8 million) of U.S. households were food insecure.¹
- Food insecurity (FI) and hunger affect individuals' physical, psychological, and social health.²
- Household FI during pregnancy is associated with poor pregnancy outcomes.
- The COVID-19 pandemic and associated public health orders not only disrupted patient access to care but may have also limited access to food.
- In pregnancy complicated by diabetes, food security (FS) status may further affect a person's ability to engage in the ADCES7 self-care behaviors, especially during a pandemic.

Objective

- The specific aim of this study was to examine the impact of FS in pregnancy complicated by diabetes (pregestational or gestational) during the COVID-19 pandemic on self-reported patient self-care behaviors and pregnancy outcomes.



Methods

Study design

- Retrospective cross-sectional survey (English and Spanish) conducted via REDCap* or via mail.
- Adult patients with pregnancy complicated by diabetes (n=191) who received care at a university medical center from April 2020 to March 31, 2021.
- Data collected: demographics, 18- item Household Food Security Survey Module, self- reported ADCES7 self-care behaviors (diet, SMBG, medication), and self-reported pregnancy outcomes

Inclusion Criteria

- Presence of pregestational diabetes mellitus (type 1 or type 2) or Gestational Diabetes Mellitus(GDM)
- English or Spanish speaker

Exclusion Criteria

- No diagnosis of diabetes during pregnancy
- Non-English or non-Spanish speaker

Statistical Analysis

- Chi-square or Fisher Exact Test for categorical data and Mann-Whitney U Test for median comparison

Results

- 12% survey return rate
- GDM was the primary diagnosis (82.6%)
- Study participants were primarily White (61%) and Hispanic (61%)
- Most study respondents were FS (78%, n=18)
- No significant differences in self-care behaviors OR pregnancy outcomes between FS and FI households
- Households with FI were significantly larger with more children

Results

	Food Secure (n=18) n (%) or median (Q1, Q3)	Food Insecure (n=5) n (%) or median (Q1, Q3)	p-value
Household number	3.0 (3.0, 4.0)	6.0 (4.0, 6.0)	0.03
Household number of children	1.0 (1.0, 2.0)	4.0 (1.5, 4.0)	0.046
Difficulty purchasing food/following diet			0.063*
Most of the time	0 (0%)	1 (20%)	
Some of the time	8 (44.4%)	4 (80%)	
Never	9 (50%)	0 (0%)	
Don't know	1 (5.6%)	0 (0%)	
Difficulty purchasing/taking medication			0.576*
Some of the time	6 (42.9%)	2 (66.7%)	
Never	8 (57.1%)	1 (33.3%)	
Difficulty with SMBG (purchasing or testing)			1.0*
Most of the time	1 (5.6%)	0 (0%)	
Some of the time	8 (44.4%)	3 (60%)	
Never	9 (50%)	2 (40%)	

Conclusions

- FS status during the COVID-19 pandemic did not significantly impact self-care behaviors or clinical outcomes in pregnancy complicated by diabetes
- The finding that 43%-50% of FS participants reported difficulty engaging in diet, monitoring, and medication self-care behaviors is concerning and warrants further investigation.
- CDCES should consider screening pregnant patients for FS.

References

1. U.S. Department of Agriculture, "Measurement," September 2021 Available at <https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-u-s/measurement/>
2. Gibson M. Health and Nutrition. The Feeding of Nations: Redefining Food Security for the 21st Century. Boca Raton: CRC Press, Taylor & Francis Group; 2016. p. 373-87.

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