Understanding Dietary Intake and Barriers & Facilitators for Healthy Eating in Black Pregnant Women Toward the Prevention of Gestational Diabetes Mellitus

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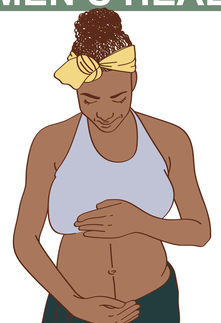
BACKGROUND

GESTATIONAL DIABETES MELLITUS (GDM) SEVERELY IMPACTS BLACK PREGNANT WOMEN'S HEALTH!

GDM & HDP

Black pregnant women with GDM are 3.9 times more likely to experience a hypertensive disorder during pregnancy compared to Black women without GDM.[1]



GDM & Cardiometabolic Disease Risk

Black women with a history of GDM are 2.4 times more likely to develop a future cardiometabolic disease.[2]

DIET IS KEY

Diet is a major modifiable risk factor to target for GDM and post-GDM cardiometabolic consequences, however, few studies leverage diet for GDM prevention through dietary behavior change interventions developed with and for Black pregnant women.

- This preliminary study assesses current dietary intake and barriers/facilitators to healthy eating of Black pregnant women with/at risk for GDM.
- Collected data will be used to develop a DASH (Dietary Approaches to Stop Hypertension) dietary intervention with and for Black pregnant women to prevent GDM.

METHODS

- Pregnant Black women from Chicago participated in an online survey to identify dietary intake, barriers & facilitators to healthy eating, and to understand their food environment using five validated survey modules.
- These modules included the Maternal Health History Survey,[3] NCI's Dietary Screener,[4] USDA's Household Food Security Questionnaire,[5] Revised Perceived Nutrition Environment Survey,[6] and Food Choice Questionnaire.[7]
- All data analysis was completed using SPSS Statistics; group comparisons were computed using chi-square testing and one-way ANOVAs. Dietary intake was calculated using a linear regression model.

RESULTS

	Total (N = 53)	GDM - (N = 41)	GDM + (N = 12)	p-value
Age in years, mean (SD)	29.6 (5.4)	29.6 (5.2)	29.9 (6.2)	.835
Education, n (%)				.142
Some high school	2 (4%)	2 (5%)	0	
High school/GED	19 (36%)	14 (34%)	5 (42%)	
Some college	14 (26%)	12 (29%)	2 (17%)	
Technical/vocational school	2 (4%)	0	2 (17%)	
College graduate	11 (21%)	9 (22%)	2 (17%)	
Graduate school	5 (9%)	4 (10%)	1 (8%)	
Marital status, n (%)				.435
Single, not living with SO	26 (49%)	22 (54%)	4 (33%)	
Separated	5 (9%)	4 (10%)	1 (8%)	
Divorced	2 (4%)	1 (2%)	1 (8%)	
Single, living with SO	13 (25%)	8 (20%)	5 (42%)	
Married	7 (13%)	6 (15%)	1 (8%)	
Household income, n (%)				.328
<$20,000	24 (45%)	17 (42%)	7 (58%)	
$20,000-34,999	7 (13%)	6 (15%)	1 (8%)	
$35,000-49,999	10 (19%)	8 (20%)	2 (17%)	
$50,000-100,000	7 (13%)	7 (17%)	0	
>$100,000	2 (4%)	0	2 (17%)	
Not willing to share	3 (6%)	3 (7%)	0	
Receiving federal aid, n (%)				.773
Yes	39 (74%)	30 (73%)	9 (75%)	
Parity, n (%)				.403
Nulliparous	21 (40%)	15 (37%)	6 (50%)	
BMI, mean (SD)	33.8 (7.0)	32.7 (4.5)	37.3 (11.8)	**.045**
18.5 < x < 24.9, n (%)	2 (4%)	0	2 (17%)	
24.9 < x < 29.9, n (%)	14 (26%)	14 (34%)	0	
30 < x < 39.9, n (%)	31 (59%)	26 (63%)	5 (42%)	
40 < x, n (%)	6 (11%)	1 (2%)	5 (42%)	
Gestational weeks, mean (SD)	22.4 (9.2)	21.4 (9.0)	25.8 (9.4)	.139
Living in a neighborhood with low-food access [1]				.081
Yes	38 (72%)	27 (66%)	11 (92%)	

Table 1. Demographic table of participants. (n=53)
[1]Low-food access is defined as neighborhoods with a higher than Chicago-wide average (21.93%) of residents with low-food access. Low-food access is measured by >1 mile distance to a supermarket/super-center/ large grocery store in an urban environment.

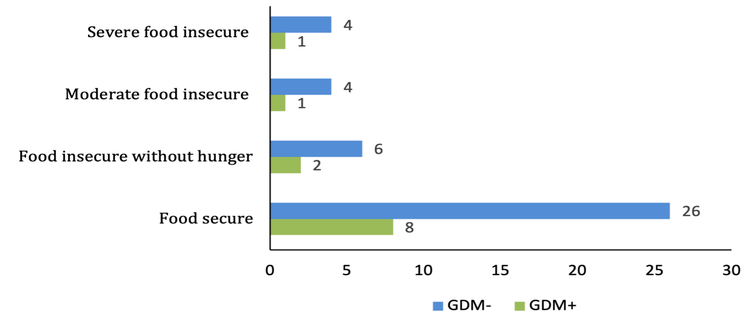


Figure 2. Reported household food security. The USDA Household Food Security Questionnaire was used to report food security. Categories include food secure (scores 0-2.32), food insecure without hunger (2.33-4.56), moderate food insecure with hunger (4.57-6.53), and severe food insecure with hunger (6.54-10). Participants had a mean score of 2.30 indicating lower margins of food security. However, 35% of participants indicated food insecurity with no significant differences between groups.

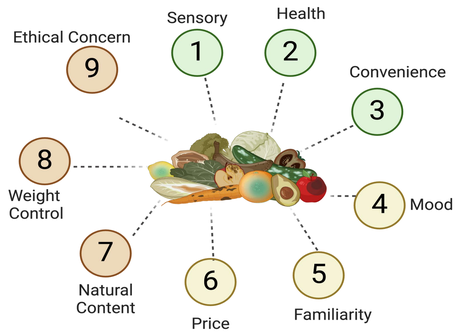


Figure 3. Participants' overall prioritization when making food choices according to Food Choice Questionnaire. Sensory appeal, health, and convenience were the top three prioritizations identified. GDM+ and GDM- participants did not significantly differ in food choice prioritization.

GDM - = 41

Daily Cups:
- Fruit = .688
- 100% fruit juice = .655
- Salad = .225
- Other vegetables = .318
- Fried potatoes = .308
- Other potatoes = .275
- Total fruits & vegetables = 2.25

GDM + = 12

Daily Cups:
- Fruit = .464
- 100% fruit juice = .737
- Salad = 0.4
- Other vegetables = .433
- Fried potatoes = .204
- Other potatoes = .096
- Total fruits & vegetables = 2.28

Figure 1. Reported average daily intake of fruits & vegetables according to NCI's Dietary Screener Questionnaire (DSQ). Red indicates statistical significance ($p<0.05$). None of the participants met the USDA's fruit and vegetable intake recommendations during pregnancy.

CONCLUSION

- These preliminary results highlight items to target for the DASH for Us, intervention including dietary intake, quality, and access to healthy foods (fruits and vegetables) among Black pregnant women.
- We will fully analyze all the online survey data once 100 participants are recruited.

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This research is supported by the following: the UIC/NIH Building Interdisciplinary Research Careers in Women's Health (BIRCWH) grant [3K12AR084225-05S1], the Ford Foundation Postdoctoral Fellowship, and the UIC Bridge to Faculty Postdoctoral Program. The views expressed are those of the authors and do not necessarily represent the views of the National Institutes of Health, or the U.S. Department of Health and Human Services.