Associations Between Social and Structural Determinants and Dietary Outcomes Among Perinatal Women Living In New Hampshire

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Background: For targeted nutrition interventions to improve diet quality, more research is needed to understand the relationship between structural and social determinants and diet quality outcomes among perinatal populations in NH.

Objective: To examine the associations between experiences with discrimination, food security status, WIC participation, and area of residence with diet quality among perinatal women living in New Hampshire.

Methods: Cross-sectional study. Participants completed a sociodemographic questionnaire, the short Healthy Eating Index (sHEI), the Pregnancy Risk Assessment Monitoring System (PRAMS) questionnaire, and the USDA 6-item Food Security Module. Mann–Whitney U and Kruskal–Wallis tests were used for continuous variables, and Fisher's exact tests assessed associations between categorical variables. Statistical significance was assessed at $p < 0.05$.

Results: Participants (n=51) were mostly less than 3 years postpartum (84%) and married (84%). Nearly all respondents reported no discrimination during healthcare visits (97%); 60% reported never personally experiencing discrimination, while 86% believed racial/ethnic discrimination against non-white groups occurs often/sometimes. The median total sHEI score was 53.5/100 total possible points. There was a significant association between WIC participation and food security status ($p < 0.001$), with participants in MLV.L more likely to be enrolled in WIC. Urban and rural residents had higher sHEI subcomponent dairy scores than suburban residents (p.adj = 0.02).

Conclusion: Diet quality in this perinatal population was suboptimal. Food security status and area residence may negatively influence intake of certain critical food groups. Trends in subgroup differences may suggest potential disparities.

Diet quality (sHEI) score indicate poor adherence to healthy eating recommendations for this perinatal sample.

Fruit and vegetables intake were significantly lower for pregnant and postpartum women with marginal food security, low food security, and very low food security status.

Dairy sHEI score was significantly lower for pregnant and postpartum women who reported living in suburban areas.

Total sHEI score did not significantly differ by experiences with discrimination, food security status, WIC participation, or area of residence.

Figure 1. Group comparisons for selected sHEI components

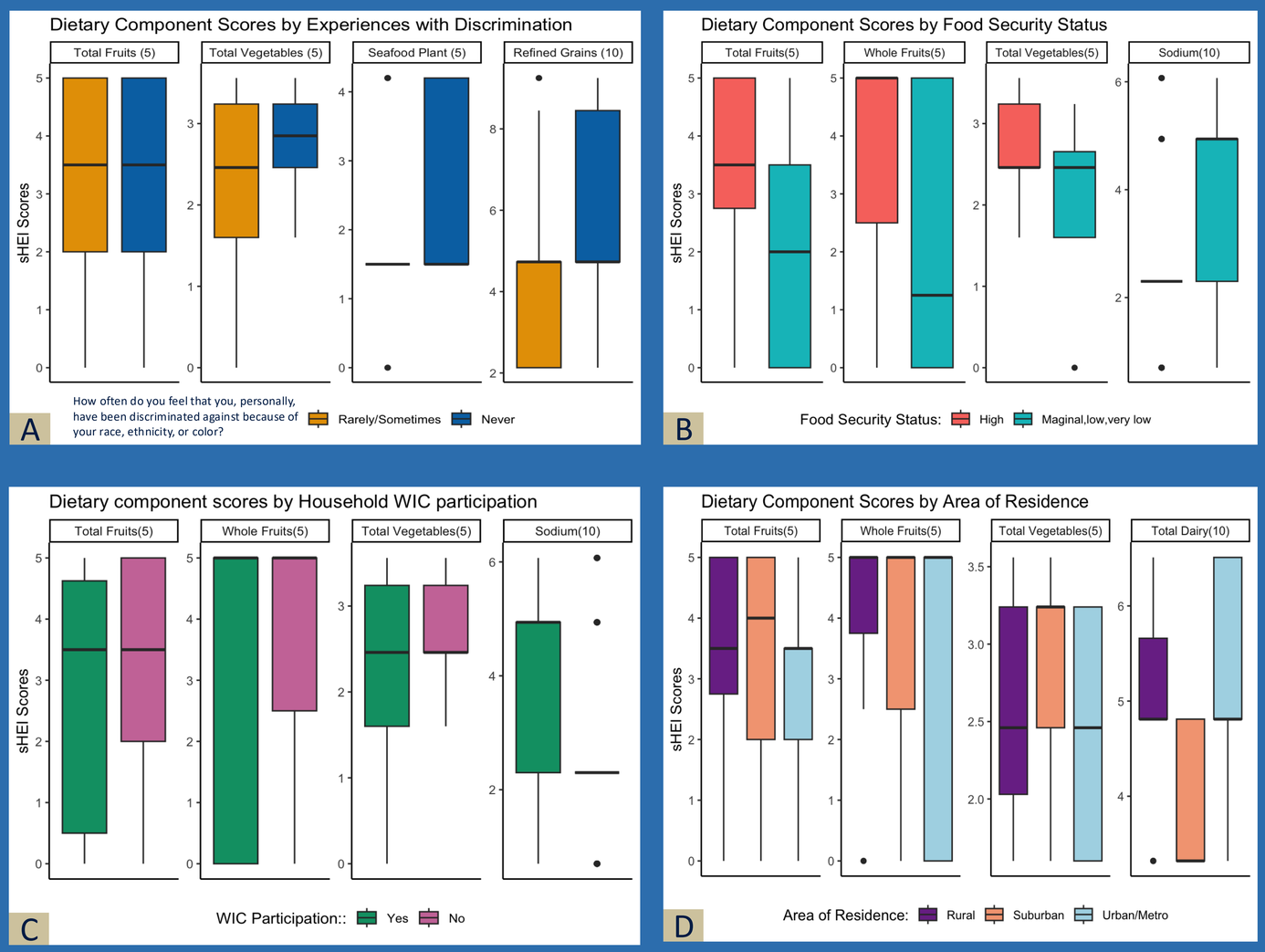
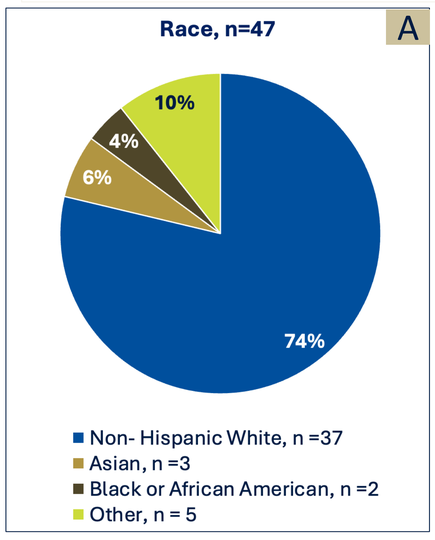
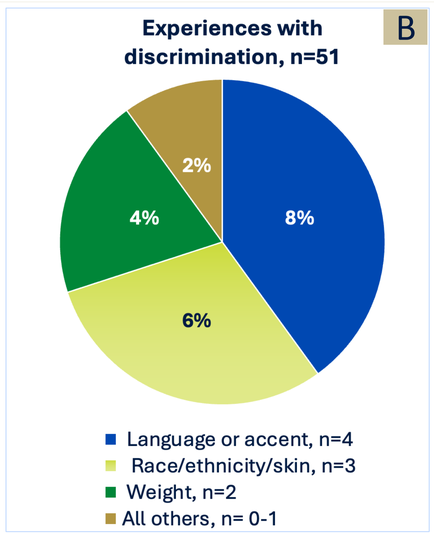


Figure 1. P-values shown correspond to group comparisons for selected sHEI components. Statistical significance was set at $p < 0.05$.
(A) Experiences with discrimination: total vegetables (p = 0.048), seafood and plant protein (p = 0.03), refined grains (p = 0.04);
(B) Food security status: total fruits (p = 0.02), whole fruits (p = 0.01), total vegetables (p = 0.04), sodium (p = 0.03);
(C) Household WIC participation: total fruits (p = 0.14), whole fruits (p = 0.18), total vegetables (p = 0.34), sodium (p = 0.03).
(D) Area of residence: total fruits (p = 0.35), whole fruits (p = 0.40), total vegetables (p = 0.35), total dairy (p = 0.04).
MLV.L: Marginal, low, and very low food security (MLV.L),

Figure 2. Sociodemographic Characteristics





Characteristic	n(%) C
Origin of birth	
US born	40 (78)
Born elsewhere	11 (22)
Area of residence	
Rural	15 (32)
Suburban	19 (40)
Urban/Metro	13 (28)
Household WIC participation	
Yes	14 (29)
No	36 (71)
Haven't heard of WIC before	1 (2)

Figure 3: short Heathy Eating Index (sHEI) scores

sHEI component (max score)	Median	IQR
Whole fruits (5)	5	2.5
Total vegetables (5)	2.46	0.78
Greens beans (5)	5	0
Wholegrains (10)	5.2	0
Dairy (10)	4.81	1.5
Protein (5)	4.97	0
Seafood and plant protein (5)	1.5	0
Fatty acid (10)	4.54	1.91
Refined grains (10)	4.73	4.95
Sodium (10)	2.3	2.64
Added sugars (10)	5	0
Saturated fat (10)	4.64	0.72
Total DQ score (100)	53.47	11.36

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