

Assessing the Role of Acculturation, Social Support, and Stress on Birth Outcomes among Hispanic Women Enrolled in Familias Sanas

Shruti Bala, MPH, Dean Coonrod, MD, MPH, Stephanie Ayers, PhD, Flavio Marsiglia, PhD
 Maricopa Integrated Health Systems/District Medical Group; Southwest Interdisciplinary Research Center

Abstract

Familias Sanas (Healthy Families) randomized low income, immigrant Hispanic mothers to either a bicultural and bilingual 'prenatal partner' or usual care. This secondary data analyses identifies the associations between the predictor variables of acculturation, social support, and stress on maternal health and birth outcomes in the Familias Sanas study participants. Based on linear regression, Hispanicism predicted lower stress and Americanism significantly predicted higher stress. Stress significantly predicted lower birth weight ($p < 0.05$).

Introduction

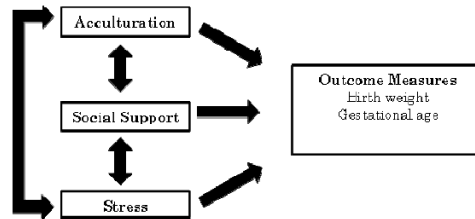
Although the State of Arizona is currently meeting the Healthy People 2020 targets with respect to low birth weight, infant mortality, mothers who received early prenatal care, and preterm births¹, health disparities are present between the racial/ethnic groups. Hispanic mothers are less likely to begin prenatal care in the first trimester (74.1% vs. 80.3% in all groups)² and more likely to deliver preterm (11.2% vs. 9.6% in all groups).² However, the low birth weight rate among Hispanic mothers was 6.4%, which lower than the rate for the general population.² This 'Hispanic Paradox' is attributed to the protective effects of low acculturation and social networks of support.³

Methods

This cohort study (N=440) assesses:

- 1) Relationships between the three predictor variables via Pearson correlations
- 2) Associations between each of the predictor variables to gestational age and birth weight via linear regression
- 3) Cumulative correlations between the three predictors and outcome variables.

Figure One: Conceptual Model



Results

Hispanicism predicted lower stress ($p = 0.02$, $\beta = -0.134$) and Americanism significantly predicted higher stress ($p < 0.01$, $\beta = 0.239$)

Both acculturation measures were positively correlated with social support (Hispanicism: $r = 0.179$, $p < 0.01$; Americanism: $r = 0.154$, $p < 0.01$)

Table One: Linear Regression Assessing the Impact of Predictor Variables on Birth Weight

	Unstandardized B	Standardized SE	Standardized Beta	t	Significance
Constant	3521.79	2737.1		12.9	.000
Americanism	10.95	36.35	.022	.301	.76
Hispanicism	11.39	45.12	.018	.252	.80
Social Support	-74.96	66.01	-.081	-1.14	.26
Stress	-.015	.019	-.044	-.78	.43

Table Two: Linear Regression Assessing the Impact of Predictor Variables on Gestational Age

	Unstandardized B	Standardized SE	Standardized Beta	t	Significance
Constant	39.45	1.28		30.58	.000
Americanism	.23	.17	.09	1.25	.21
Hispanicism	-.12	.21	-.04	-.56	.57
Social Support	-.25	.31	-.06	-.79	.42
Stress	-8.41	4.21	-.114	-2.0	.046

Social support was negatively correlated with stress ($p < 0.01$, $r = -.285$), indicating higher levels of social support are correlated with lower stress

Stress significantly predicted lower birth weight ($p < 0.05$, $\beta = -.114$)

The Sobel test to detect the indirect effect of acculturation on birth weight through the mediator variable of stress was not significant. Acculturation and social support were not significantly correlated with birth weight or gestational age.

Discussion and Conclusions

The results demonstrate that acculturation was correlated with stress and stress was associated with lower birth weight. Although there is strong evidence for the association between acculturation and birth weight in the literature, we did not find this in our study. Nor did we find an indirect effect of acculturation through stress although this could be due to small sample size.

Given the diverse minority population in the southwestern United States, further research studying the impact of acculturation, social support, and stress among Latina women on obstetric and perinatal outcomes is warranted and may have implications for clinical and public health practice.

References

1. The Healthy Communities Network. Healthy Arizona :: Healthy People 2020 : Progress Tracker. *Arizona Health Matters*. Available at: <http://www.arizonahealthmatters.org/index.php?module=Trackers&func=display&tid=Accessed March 6, 2012>.
2. Mrela C, Torres C. Arizona Health Status and Vital Statistics 2009 Report. 2010.
3. Rosenberg TJ, Raggio TP, Chiasson MA. A further examination of the "epidemiologic paradox": birth outcomes among Latinas. *J Natl Med Assoc*. 2005;97(4):550-556

Acknowledgements

I would like to thank my mentors Dr. Coonrod at Maricopa Integrated Health Systems/District Medical Group and Dr. Ayers at Southwest Interdisciplinary Research Center for all their support and guidance with this research project.