



# The JJ Way®: Reducing Perinatal Outcome Disparities

## A Retrospective Matched Comparison Group Study on Birth Outcomes in At-Risk Populations

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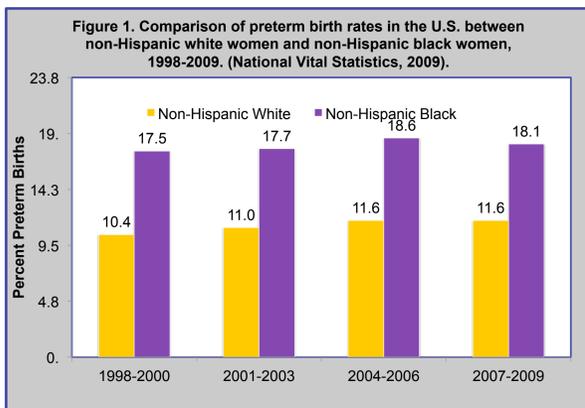
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## Introduction

Preterm birth (PTB), defined as birth prior to 37 weeks gestation, is the world's leading cause of infant mortality (Sowards, 1999).

The United States ranks 131st out of 184 countries in preterm birth (March of Dimes, 2011), placing it behind Canada, the UK, and France, as well as Afghanistan, Mali, and the Democratic Republic of the Congo.



Extreme racial disparities exist in birth outcomes in the U.S. African American women have higher rates of PTB and LBW infants than any other racial group in the U.S.

“The JJ Way®” is a model of prenatal care designed by midwife Jennie Joseph to reduce health disparities and adverse birth outcomes, such as preterm births and low birth weight infants.

## Specific Aims

- To analyze and compare the birth outcomes of patients who participated in The JJ Way® with a matched comparison group of women with the same zip codes, age, and race, who received standard prenatal care.
- The birth outcomes that were measured were gestational age at birth and birth weight of the infant.
- The researcher hypothesized that The JJ Way® is a more effective model of care than traditional prenatal services for reducing adverse birth outcomes in at-risk populations such as African American women and low-income women.

## Methods

The design was a retrospective matched comparison group study. Institutional Review Board approval at Bastyr University was granted in October of 2012. Data from The JJ Way® initial evaluation was applied for and received.

A historical comparison group was created from the Florida Vital Statistics live birth records for the same time period (2006-2007). The records with unknown prenatal care status were removed from the analysis in order to attenuate potential bias in comparing some prenatal care with no prenatal care. With the remaining records, a matched comparison group of 67 cases was created by randomly selecting records that matched The JJ Way® subjects on age, race/ethnicity and zip code.

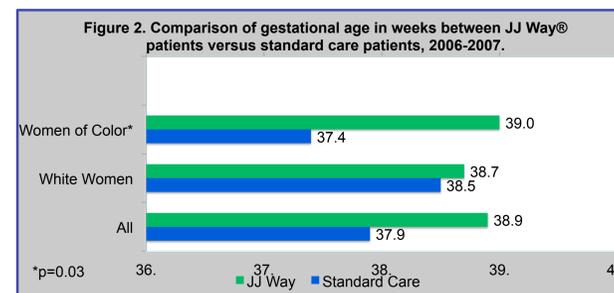
A first round analysis was done by coding subjects in each cohort as either “White,” which included women who self-identified as White and non-Hispanic, or as “Women of Color,” which included women who self-identified as African American, Haitian, and/or Hispanic.

A secondary analysis was performed comparing only the outcomes of non-Hispanic White women with non-Hispanic African American women. The sample size for this secondary analysis was small (n=104, 52 matched cases) and did not produce statistically meaningful results, but is discussed in the paper.

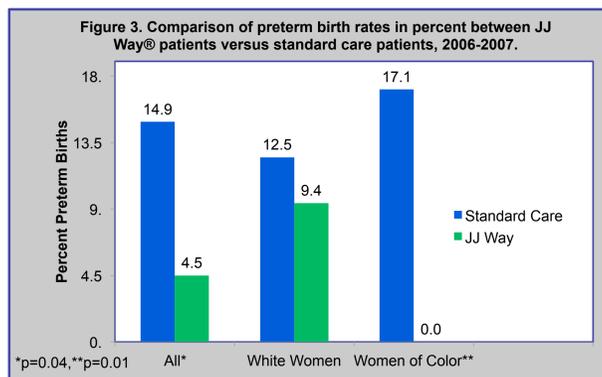
The two primary outcomes examined and compared across the two groups were gestational age at birth and birth weight. Both outcomes were analyzed as continuous variables (in weeks and in grams, respectively) and as categorical variables [preterm gestation (<37 weeks) versus full term; and low birth weight (<2500 grams) versus normal birth weight]. Differences in continuously measured gestational age and birth weights were tested for significance with T-tests. Differences in categories of preterm and low birth weight infants were examined using Fisher’s exact two-sided tests. All tests of statistical significance were calculated using SPSS.

Outcomes were compared by prenatal care group using the entire sample. Potential racial disparities in the outcome variables within each group were also examined [non-Hispanic White versus Women of Color (in the primary analysis) or African American (in the secondary analysis)].

## Results



As a whole, The JJ Way® prenatal care group showed a trend toward higher gestational age at birth that did not quite reach statistical significance (38.9 weeks versus 37.9 weeks, p=0.07) and a non-statistically significant higher birth weight (3359.4 grams versus 3265.9 grams, p=0.41) than the standard care group. When comparing by race, there were no statistically significant differences between White women in the two groups in gestational age or birth weight. However, for Women of Color in the two groups there was a statistically significant difference in mean gestational age. As a group, Women of Color in The JJ Way® model gave birth to babies at higher gestational age than Women of Color in the standard care group (39.0 weeks versus 37.4 weeks, p=0.03; see Figure 2). The JJ Way® Women of Color had higher average birth weight than the standard care group, but the difference was not statistically significant (3348.1 grams in The JJ Way® group versus 3129.9 grams in the standard care group, p=0.30).



The outcome measures were also analyzed as dichotomous variables instead of continuous, i.e., preterm (<37 weeks) versus full term, and low birth weight (<2500g) versus normal birth weight. The overall preterm birth rates were 4.5% and 14.9% for patients of The JJ Way® and the standard care group, respectively (p=0.04). The overall rates of low birth weight in each group were the same: 4.5%. When comparing by race, the difference in preterm birth rates for the Women of Color between groups was prominent. The JJ Way® group had no preterm births (0%) among Women of Color, whereas Women of Color in the standard care group had a preterm birth rate of 17.1% (p=0.01). See Figure 3.

## Conclusions

The findings of this study, which matched women from The JJ Way® with those of the same age, race, and zip code from the Florida Vital Statistics data base, revealed statistically significant longer gestational periods and lower preterm birth rates for Women of Color who were cared for within The JJ Way® model.

Given the decades of unsuccessful progress on reducing rates of preterm birth, low birth weight, and infant mortality in the U.S., The JJ Way® model’s success is noteworthy. It should be supported, funded, and larger studies should be conducted.

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