

Foreign-Born and US-Born Black Women: Differences in Health Behaviors and Birth Outcomes

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Abstract: We studied health behaviors and birth outcome among 201 foreign-born and 616 US-born Black women receiving prenatal care at Boston City Hospital. Foreign-born women had better pre-pregnancy nutritional status and prenatal health behaviors, and their infants had greater intrauterine growth. Black women are not a homogeneous group; culture and ethnicity, in addition to other variables, must be considered in the study of their birth outcomes. (*Am J Public Health* 1990; 80:70-72.)

Introduction

In the United States, Black neonates are at high risk of low birthweight and increased perinatal mortality.¹⁻³ The rate of low birthweight among foreign-born Blacks is, however, two-thirds that of US-born Blacks.⁴ The percentage of Black births in the US to mothers of foreign birth has increased in recent years. By 1986, this percentage had risen to 8 percent, an increase of 64 percent from 1976 and 39 percent from 1980, largely in urban areas of the northeast US.⁵⁻⁷

Differences in the rates of low birthweight among Blacks by foreign birth status may be related to lifestyle, since the health behaviors of those born outside of the US are different from those born in the US. For example, among Hispanics, those born outside of the US are less likely to smoke cigarettes, use illicit drugs, or receive late or no prenatal care than Hispanics born in the US, whose health behaviors more closely resemble those of US natives of other ethnic groups.^{8-12,*}

The goal of this paper is to ascertain whether similar differences in health behaviors, and consequently birth outcomes, are present in a sample of 201 foreign-born and 816 US-born Black women receiving prenatal care at Boston City Hospital.

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*Amaro H, Whitaker R, Coffman G, Heeren T: Acculturation and Drug Use: Findings from the Hispanic HANES. Paper presented at the First National Conference of the National Hispanic Psychological Association, New York, August 1987.

Methods

As part of a study of maternal health, psychosocial characteristics, health behaviors, and pregnancy outcome initiated in 1984, subjects were consecutively recruited in the prenatal clinics of Boston City Hospital. Interviews were conducted in English or Spanish at the time of prenatal registration and in the immediate postpartum period. Information on each participant's race and country of birth was obtained from closed-ended items on the initial interview. Substance use was assessed by self-report, except for marijuana and cocaine, which were also identified through urine assays. Infant assessments were conducted by pediatricians blind to the hypothesis of the analysis.

The 817 Black women presented here are a subsample of the total study sample of 1,226 women who delivered a liveborn, singleton infant and on whom complete data, including two interviews, a maternal medical record review, and an infant assessment, were available. A more detailed description of the study protocol and population has previously been published.¹³

Results

The demographic characteristics of the 817 Black women presented here are comparable to those of the low-income (47 percent with a monthly income of less than \$500, 51 percent currently receiving Medicaid), inner-city prenatal population served by Boston City Hospital. Eighty-two percent of these women were unmarried, 15 percent were 18 years of age or younger, and 36 percent had received less than 12 years of education. Of the 616 US-born women, 7 percent were first generation Americans. Of the 201 foreign-born Black women, 72 percent were from Caribbean countries (40 percent from Haiti, 11 percent from Jamaica, 21 percent from other Caribbean countries), 17 percent from Africa, 8 percent from Cape Verde, and 3 percent from England. Country of origin was not significantly associated statistically with the dependent variables used in this analysis among women of foreign birth.

Foreign-born women were more likely to be older, married, better educated, to have better pre-pregnancy weight-for-height, and to have had nine or more visits for prenatal care than those born in the US (Table 1). The two groups of women were similar on parity, trimester of first prenatal visit, and pregnancy weight gain of less than 16 lbs. They were also less likely to smoke cigarettes, drink alcohol, or use marijuana, cocaine, or opiates during pregnancy (Table 2); in addition, they used fewer cigarettes and consumed less alcohol (data not shown).

TABLE 1—Comparison of Foreign-Born US-Born Black Women on Demographic and Selected Obstetric Factors

Factors	Foreign-Born (n = 201)	US-Born (n = 616)	% Difference	95% CI of Difference
	%	%		
Maternal Age				
18 years or younger	7	18	-11	(-6, -16)
Marital Status				
Married	33	12	21	(14, 28)
Maternal Education				
11th grade or less	22	40	-18	(-11, -25)
Monthly Household Income*				
\$500 or less	44	48	-4	(-13, 5)
Pre-Pregnancy Weight-for-Height				
Less Than 90% of Ideal	6	13	-7	(-3, -11)
Primiparity	47	47	0	(-8, 8)
Trimester of First Prenatal Visit				
First or Second	87	85	2	(-3, 7)
Prenatal Care				
Less than nine visits	33	47	-14	(-6, -22)
Pregnancy Weight Gain				
Less than 16 lbs	12	16	-4	(-9, 1)

* of the 81% reporting an income

TABLE 2—Comparison of Foreign-Born US-Born Black Women on Substance Use Anytime During Pregnancy

Substance Used	Foreign-Born (n = 201)	US-Born (n = 616)	% Difference	95% CI of Difference
Cigarettes	12%	53%	-41	(-35, -47)
Alcohol	45%	64%	-19	(-11, -27)
Marijuana*	6%	39%	-33	(-28, -38)
Cocaine*	3%	24%	-21	(-17, -25)
Opiates**	1%	4%	-3	(-1, -5)
Other Drugs	1%	2%	-1	(-3, 1)

*Determined by positive self-report and/or urine assay.

**Heroin, Methadone

As seen in Table 3 infants of the foreign-born women were, at birth, heavier, longer, had larger head circumferences, and had longer durations of gestation than did infants of the US-born women. Foreign-born Black women in this sample were also less likely to have given birth to a low birthweight (≤ 2500 grams) infant (odds ratio = 0.59, 95% CI = 0.33, 1.03) or a premature (< 37 weeks gestation) infant (odds ratio = 0.46, 95% CI = 0.22, 0.94) than those born in the US.

After controlling for the effects of gestational age, weight gain during pregnancy, pre-pregnancy weight-for-height,

TABLE 3—Differences in Fetal Growth Measured at Birth between Infants of Foreign (N = 201) and US-Born (N = 616) Black Women

	Foreign-Born vs US-Born		Foreign-Born vs US-Born	
	Unadjusted Difference	95% CI of Difference	Adjusted Difference	95% CI of Difference
Birthweight	272 g	(174, 369)	135 g	(51, 218)
Length	1.3 cm	(0.9, 1.8)	0.7 cm	(0.2, 1.1)
Head Circumference	0.8 cm	(0.5, 1.2)	0.4 cm	(0.1, 0.7)
Gestational Age	0.4 wk	(0.01, 0.7)	0.3 wk	(-0.1, 0.7)

marital status, maternal age, level of education, the number of visits made for prenatal care, and the use of cigarettes, alcohol, marijuana and cocaine during pregnancy, infants born to foreign-born Black women remained heavier, longer, and larger in head circumference at birth than infants born to US-born Black women (Table 3). Duration of gestation was not different between infants of foreign-born Black women and infants of mothers born in the US. The adjusted odds of having a low birthweight infant or a premature infant remained decreased for foreign-born Black women as opposed to Black women born in the US (odds ratio, low birthweight = 0.81, 95% CI = 0.42, 1.53; odds ratio, prematurity = 0.54, 95% CI = 0.24, 1.18).

Discussion

The infants of foreign-born Black women experienced greater intrauterine growth than those of Black women born in the US, even after accounting for many of the factors known or suspected to influence fetal growth. Why such a difference remained deserves more in-depth study than these data can provide.

The following limitations should also be considered when interpreting these findings:

- First, although the percentage of births to foreign-born Black mothers in these data virtually matches that of the entire northeast US (26 percent) in 1986,⁷ it is possible that the characteristics of the women studied here are unique to the Black population who use Boston City Hospital as their primary source of prenatal care.
- Second, foreign birth status is an approximation of the cultural characteristics of these women and does not necessarily reflect the heterogeneity of either the US or foreign-born Black women in this regard.
- Third, the exclusion of non-English or non-Spanish-speaking women, who may have been less acculturated to US norms than those who participated, may have affected these findings.

These data illustrate some important differences in prenatal risk and birth outcome by foreign birth status within the prenatal population of Black women at Boston City Hospital. They suggest that low-income Black women are not a homogeneous group in terms of prenatal risk and birth outcome, and highlight the importance of considering ethnicity as indicated by place of birth, in addition to race, as a demographic factor in the study of the relationship of maternal prenatal health behaviors and birth outcomes.

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Some Sources of Error in the Coding of Birth Weight

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Abstract: Three types of error in coding birth weight to computer tapes are described: 1) confusion of ounces with pounds, 2) mistaken reading of one pound as eleven pounds, and 3) errors in placement of the decimal. All will allocate low birth weight infants to high birth weight categories. Examination of the reported gestational age of the infant or of the reported cause of death may allow these errors to be detected. (*Am J Public Health* 1990; 80:72-73.)

Introduction

There is increasing use of computerized birth certificate records in pediatric epidemiology. Such records may contain both systematic and random errors. David described sources of systematic error in the recording of birth weight and gestational age in North Carolina birth certificates.¹ In that study, it was suggested that when birth weight was abnormally large for gestational age, gestational age was most likely to be inaccurate. However, original birth certificates were not actually compared to the birth tapes for accuracy of transcription. Although the need for careful editing of data is emphasized by experienced researchers, the nature and the effects of errors which occur in coding seem to have received less emphasis.

Methods

This analysis is based on a partial review of the cases present in a state birth tape of 1984-85 data. For those infants who had died within the first year of life, linked death certificates were also available. All White infants with birth weights of 4.5 kgs or greater ("macrosomic") were sampled and a corresponding random sample in an approximately 2:1 ratio of infants with birth weights 2.5-4.0 kgs. This selection, which related to the primary aims of a project on macrosomia, yielded 5,399 macrosomic and 10,250 control infants.

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Within these samples, the records of all those infants who had died in the first year of life were reviewed and the birth weight reported on the birth certificate compared with the birth weight reported on the computer tape. Additionally, 34 birth certificates of those infants with the highest birth weights who had not died were reviewed to bring the total number of birth certificates reviewed to 120.

Results

Within the high birth weight group, 39 infants were reported to have died within the first year of life. However, 18 cases of miscoded birth weight were detected in this group, leaving only 21 infants whose birth weights were confirmed as being high. Within the normal control group, 47 infants were reported to have died within the first year of life. The birth weights of all these infants were confirmed as correctly coded. All of the additional high birth weight infants who had survived the first year of life and whose certificates were checked had correctly coded birth certificates.

Three types of errors appeared to be responsible for the miscoding:

- One type of error is the confusion of ounces with pounds. Examples include 12 oz being coded as 5,443 grams (12 lbs), and 14 oz being coded as 14 lbs. This error occurred in nine of the 18 cases of detected coding error.
- The second type of error consisted of mistaken reading of birth weights of one pound or more as eleven pounds. The ease with which one pound can be misread as eleven pounds can be understood by considering the abbreviation used for one pound (1 lb) where the lower case letter "l" is mistaken for a second digit one "1." This is illustrated in Figure 1 which consists of a photocopy of the relevant part of the six birth certificates in which all six birth certificate weights were coded as eleven pounds. In fact, only the infant whose birth certificate is coded as "e" had a true weight of eleven pounds. This error occurred six times in the series.
- The third set of errors occurs when a decimal is wrongly placed in metric values. This includes cases such as 510 grams being mistakenly coded as 5100