Contact ColorLi
ColorL
PME
4096 Piedmon
Oakland, CA 94611-
510-653-
510-653-3427
email: colorlines@ar

Published
Publicati

Persistent Peril:
Why African American babies have the highest infant mortality rate in the developed world

By Ziba Kashef, ColorLines RaceWire

Sophie Womack, 48, was surprised when in 1985 her first child, Brandi, was born three weeks shy of her due date and six ounces below normal birth weight. The Detroit mother had received timely prenatal care and was in good health throughout her pregnancy. Yet her baby was premature. Then, two years later, Sophie's second child, Ashley, also entered the world too small and too early. "In spite of the fact that I ate well and otherwise was healthy, I still had two relatively small children," she recalls.

This pattern seemed particularly odd since Sophie was a neonatalogist, a type of doctor who specializes in the development of newborns. As a physician, she knew a great deal about how to prepare for pregnancy and childbirth. She just didn't fit the profile of a mom of low birth weight children: She wasn't too young. She wasn't poor. She was educated and had medical care. Yet Sophie had one key risk factor that seemed to cancel out all the positives: She was black.

African American women have long had higher rates than whites of low-birth weight and preterm babies, the leading causes of infant mortality or death in the first year of life. This fact does not seem extraordinary considering the long list of other well-documented health disparities, including life expectancy and various disease incidence rates. But a recent study published in the *Journal of the American Medical Association* reported that one particular disparity–the gap in black-white baby deaths–has not just persisted but actually grown in recent years despite federal efforts to eliminate the difference. As the journal authors noted, that long-standing inequality is not readily explained by a mother's age, education or income.

While many ob/gyns and health experts point to causes like the timing of prenatal care or unequal health insurance access, others are asking broader questions about race, racism, and health. These more complex questions may begin to explain why in a country with one of the most advanced health care systems in the world black babies remain the most vulnerable, and such racial health disparities simply refuse to go away.

Medical mystery

An infant's survival and long-term health is influenced by many factors, including the mother's age, health status and behavior during pregnancy. The two most significant determinants of a young baby's health and development, however, are birth weight and

gestational age at birth. Infants born at or before 37 weeks, or under 2,500 grams (5 lbs., 8 oz.), are at greater risk of medical problems, disability, and death before their first birthday. Compared with women from various ethnic groups in the United States (Hawaiian, American Indian, Puerto Rican, Filipino, Mexican, Cuban, Japanese, Chinese and non-Hispanic white), black mothers have the highest percentage of low birth weight and preterm births. In 2000, more than one in ten black infants was born too small and nearly one in five was born before the ideal time.

This disparity has long been the case. Historically, while African-American moms have been stereotyped as "fertile Myrtles," they've had consistently poorer birth outcomes, including more low birth weight babies, very low birth weight (at or less than 3 lbs. 5 oz.) babies and infant mortality. In 2000, the rate of infant death for blacks stood at 13.6 per 1,000 live births–double the rate for the general population, and almost triple the rate for whites. (Even the group with the next highest infant mortality rate–Hawaiians with a 9 per 1,000 baby death rate–fare far better than blacks.)

However, the usual explanations for the disparity–income, education, late prenatal care–don't come close to identifying why even professional, middle-class black mothers like Sophie continue to experience the two to threefold higher risk of having a small baby than white moms. Research has debunked the notion that socioeconomic status and related factors are the source of the problem. Consider these facts:

- College- and graduate-school educated black mothers have a higher infant mortality rate than white moms who didn't finish high school

- Black women who get prenatal care in the first trimester have double the infant mortality rate of white mothers with first-trimester care

- Black women with similar levels of prenatal care as Hispanic women (generally less educated and with lower incomes than blacks) have higher rates of low birth weight, preterm deliveries, and infant mortality.

According to Dr. Michael Lu, assistant professor of obstetrics and gynecology and public health at UCLA, researchers have found that even when they control for such varied factors as poverty, housing, employment, medical risk, abuse, social support and so on, 90 percent of the differences in birth weight between black and white moms remains unaccounted for. "Most studies have looked at black-white differences during pregnancy, for example, differences in prenatal care utilization or maternal behavior," he says. "What we're finding is that these differences really explain very little of the disparities in birth outcomes."

Even genetics fail to provide answers. To test the hypothesis, Dr. James W. Collins, Jr., associate professor of pediatrics at Northwestern University Medical School, compared birth outcomes of African American and Africa-born mothers in Illinois over a 15-year period. He assumed if there was something about African genes that caused poor birth outcomes, the statistics for African-born women might actually be worse. But Collins and his colleagues found that the babies of African-born women had birth weights similar to those of white American women and higher than those of black American women.

A different paradigm

To probe the underlying cause of excess black infant mortality some experts are beginning to look beyond individual women's risk factors at the time of pregnancy to a more complete,

long-term perspective on women's health. "Healthy women beget healthy children," says Lu. "So when you start to talk about the health of the mother, you have to really look at her life course experiences, and some of that actually depends on the health of *her* mother."

It's known, for example, that a child is more likely to be born low birth weight if her mother was also born that way. If the cause is not a shared gene, perhaps it's a shared experience. For instance, the immune system begins to develop in utero and matures over time. During certain critical periods of development, Dr. Lu points out, the immune system can be adversely affected by certain experiences and exposures, such as repeated infections or undue stress. These exposures may pattern the immune system in a particular way that sets the stage for increased risk to poor health and poor birth outcomes. A mother with less than optimal immune response may give birth to a baby with less than optimal immune response and so on.

Chronic emotional stress results from many factors, including physically demanding jobs and a lack of control in the workplace, single parenthood, and financial worries–all problems experienced disproportionately by women of color. Discrimination is also a documented source of harmful stress. One study found that women who gave birth to very low birth weight babies were more likely to have experienced racial discrimination than women who had normal weight babies.

Sophie Womack acknowledges that the related issues of discrimination and stress may explain, in part, why even she and many of her fellow black physician friends all gave birth to small babies despite their education and higher incomes. "As a black woman going into the field of medicine and stepping out into the world, we're constantly trying to accomplish and do well because we're afraid if we don't do well that we may be discriminated against," she says. "I'm sure that plays some role in the amount of stress that we have during the time that we're in training and trying to develop our careers. It's just not very easy. And those things do factor into what happens in our pregnancies."

While women of color and their health advocates can't undo centuries of discrimination or the stress it causes, they can begin to recognize the complexity of the problem. "For about 20 years, our model of prenatal care says if only we can give women universal access to early and adequate prenatal care, if we get them to the doctor's office, if we can enhance quality of prenatal care that they get, somehow we improve the birth outcomes," says Dr. Lu. "But to expect that one visit once a month to once a week, in less than nine months, to reverse all the cumulative disadvantages and inequities over their life course is probably expecting too much of prenatal care."

Closing the gap

To counter low birth weight, prematurity, and infant mortality among blacks and other women of color, the health care system must go beyond narrow messages about prenatal vitamins and visits. Doctors can talk to women about preconceptual health and the importance of identifying and treating medical conditions, such as hypertension and diabetes, prior to pregnancy. The medical community also needs to confront the now-proven pattern of bias in medical care. While the Institute of Medicine uncovered discrimination in such areas as cardiac care, less well-publicized studies have found discrepancies in prenatal care and high-risk obstetrics. White mothers in preterm labor and white newborns with life-threatening conditions such as respiratory distress syndrome by and large receive better care.

Public health providers can take a cue from successful programs, such as the Black Infant Health Program (BIH). Based in San Diego, BIH helps women with whole-life issues such as

applying for health insurance, accessing transportation to their doctor's office, and finding drug treatment programs. From the time a woman enters the program and through the first year after birth, she can expect home visits from nurses and services such as support groups. By assisting women with a range of issues, including housing, child custody, marital and work problems, the program has seen a small but demonstrable increase in the birth weight and viability of black newborns in San Diego.

Another key area is culture. Research by Dr. Collins and others has shown that while some foreign-born women (specifically African and Mexican women) have babies with better birth weights, the birth outcomes of *their* daughters show a decline. The same is true of Native American women who leave reservations. While women of color in the U.S. may gain from certain aspects of living in mainstream American society, they may also miss out on some of the protective effects of culture and close familial and community ties that serve as a buffer to stress and racial discrimination.

back to *RaceWire* home

Critical Thinking Assignment Part 2

Joseph L. Graves Jr.* 2009. "Biological V. Social Definitions of Race: Implications for Modern Biomedical Research. " ***Review of Black Political Economy.***

http://www.academia.edu/218217/Biological_and_Social_Definitions_of_Race_Implications_for_Modern_Biomedical_Research

Abstract

Misconceptions concerning the concordance of biological and social definitions of race are ongoing in American society. This problem extends beyond that of the lay public into the professional arena, especially that of biomedical research. This continues, in part, because of the lack of training of many biomedical practitioners in evolutionary thinking. The end result is that there are fallacies in the pursuit of "race-specific" medicine.

How are "biological races" defined?

A necessary corollary of any theory of gradual speciation is that there should exist in nature

"forms" or "varieties" or " populations" that are *incipient species...* Kinds of animals that show no (or only slight) structural differences, although clearly separable by biological characters, are called races (Mayr 1974).

Templeton (2002) defined biological races as either a distinct evolutionary lineage within a species (Shaffer and McKnight 1996) or as geographically circumscribed, genetically differentiated populations, coupled with a minimum threshold of genetic differentiation that can be quantified with modern genetic techniques. Neither of these definitions hold within anatomically modern humans. For humans, there is a violation of the geographically circumscribed and genetically differentiated criterion. Also, the unique evolutionary lineage claim is violated by the history of continuous gene flow between human populations. This picture of human evolution has been consistently supported over the last 10 years or so (Akey and others 2002; Tishkoff and Kidd 2004; Hinds and others 2005; Templeton 2007). Thus evolutionary biologists recognize that human genetic variation exists, that this variation is continuous along geographic distance, but that attempting to classify humans into biological races simply doesn't follow (Graves 2005).

Unfortunately, the vast majority of Americans, including many biomedical researchers and medical practitioners, do not understand the lack of correspondence between biological and social constructions of race (Graves and Rose 2007).**

What we have learned since then is that anatomically modern humans are a young species. The first agreed upon modern human fossils are dated to about 120,000 ybp and appear in Tanzania. The first modern human fossils outside of Africa are dated to about 100,000 ybp and appear in Israel. Today, the genetic evidence also suggests that all modern humans are descended from ancestors that once lived in Sub-Saharan Africa. This has been shown by data derived from nuclear, mitochondrial, and Y-chromosome DNA. It also follows that because humans are a young species that we don't have a great deal of genetic variation compared to other large bodied mammals. For example, chimpanzees from three different regions of Africa (Eastern, Western, and Southern) Africa have 43.33 times more genetic variability between them than the most genetically different human populations do (Boyd and Silk 2003). The small amount of genetic variation within our species explains why we don't show biological races under Ernst Mayr 's notion of incipient species.

Akey J, Zhang G, Zhang K, Jin L, Shriver M. "Interrogating a high-density SNP map for signatures of natural selection." *Genome Res*. 2002; 12: 1805 – 14.

Graves J. "Scylla and charybdis: adaptationism, reductionism, and the fallacy of associating race with disease." In: Ankeny R, Parker L, editors. *Medical genetics: mutating concepts and evolving disciplines*. Amsterdam: Kluwer Academic; 2002a.

Graves J. "Between a rock and a hard place: teaching the biological and social construction of race." In: Tu-Smith B, editor. *Race in the class room: politics and pedagogy*. New Brunswick: Rutgers University Press; 2002b. p. 299 –331.

Graves J. *The race myth: why we pretend race exists in America*. New York: Dutton Books; 2005.

Graves J. "The meaning of race in the African American experience." In: McDaniel C, Johnson T, editors. *Africana legacy: diasporic studies in the Americas*. Littleton: Tapestry; 2006.

Graves J, Rose M. Against racial medicine. Patterns of Prejudice. 2007; 40: 481– 93.

Graves J, Bailey G. Evolution, religion, and race: critical thinking and the public good. Forum on Public Policy: A Journal of the Oxford Round Table Summer, 2008 Edition [Internet]; 2009. Available from: http://www.forumonpublicpolicy.com/summer08papers/archivesummer08/graves.pdf

Hinds D, et al. "Whole genome patterns of common DNA variation in three human populations." *Science*. 2005; 18: 1072 – 9.

Mayr E. *Population, species, and evolution*, 3rd printing. Cambridge: Harvard University Press; 1974. p.258 – 9.

Shaffer HB, McKnight ML. "The polytypic species revisited— Genetic differentiation and molecular phylogenies of the tiger salamander Ambystoma tigrinum (Amphibia, Caudata) complex." *Evolution*. 1996; 50: 417 – 33.

Templeton AR. "The genetic and evolutionary significance of human races." In: Fish J, editor. *Race and intelligence: separating science from myth*. Mahwah: Laurence Earlbaum; 2002. p. 31 – 56.

Templeton AR. "Genetics and recent human evolution." *Evolution* 2007; 61(7): 1507 –19.

Tishkoff SA, Kidd KK. "Biogeography of human populations: implications for race and medicine." *Nat Genet* 2004; Suppl 1:S21 –7.

Tishkoff SA, Pakstis AJ, Stoneking M, Kidd JR, Destro-Bisol G, Sanjantila A, et al. "Short tandem-repeat polymorphism/alu haplotype variation at the PLAT locus: Implications for modern human origins." *Am J Hum Genet.* 2000; 67: 901 – 25.

Wright S. "Evolution and the genetics of populations." *volume 4: variability within and among natural populations*. Chicago: U. Chicago; 1978. p. 449 –50.

*James L. Graves is a biologist and a professor of nanoengineering at ***North Carolina A&T State University, specializing in evolutionary genetics***

****** Regarding BiDil, the so-called 'race pill' that is marketed to blacks for lowering hypertension, Graves (2006) makes the following observation: "BiDil may work for African American patients because they have greater oxidative damage in their cells, due to chronic stress. This would mean that the drug is acting on an environmentally induced difference, not a genetically based one. If the drug were used in Western Africa, where Africans face less racialized stress and a variety of environmental factors differ, we may not observe any "race-specific" effect." See Graves, Joseph L. Jr. 2006. "What we know and what we don't know: human genetic variation and the social construction of race," SSRC Web Forum. Available from: http://raceandgenomics.ssrc.org/Graves/