Skin color and health: it’s not about race?

In a recent publication, Science magazine quotes biological anthropologist Nina Jablonski as saying “Skin color is not about race”. She made this statement during a face-off with comedian Stephen Colbert. Her comment is built on over three decades of studying the evolution of the human skin. Dr. Jablonski’s observations have added important ideas to our understanding of how skin color affects human health risk. But the connection between skin color and health risk goes far beyond physiological associations.

The Evolution of Color

Many scientists believe that dark skin evolved as a protection from sunburns and skin cancer while light skin evolved to provide vitamin D in areas where sunlight was scarce. However, Dr. Jablonski believes that dark skin actually evolved as a protection against folate destruction by ultraviolet (UV) radiation from the sun. She posits that natural selection favored darker skin in environments with stronger sunlight in order to prevent folate deficiency which could lead to neural tube birth defects and perinatal death.

Neural tube defects are birth defects of the brain, spine, or spinal cord. They occur in the first month of pregnancy, often before a woman even knows that she is pregnant. The two most common health outcomes of neural tube defects are spina bifida and anencephaly. In spina bifida, the fetal spinal column doesn’t close completely. There is usually nerve damage that causes at least some paralysis of the legs. In anencephaly, most of the brain and skull do not develop. Babies with anencephaly are either stillborn or die shortly after birth. Research has shown that getting enough folic acid before and during pregnancy prevents most neural tube defects.

Interestingly, in a 2000 paper co-authored with her husband, geographer George Chaplin, Jablonski also proposed that our ancient ancestors in Africa originally had fair skin covered with hair. When, perhaps about 1.5 million years ago, they lost body hair in order to keep cool, their naked skin became darker. She goes further to say that as humans spread out of Africa they adapted to varying degrees of natural light and eventually developed light skin in the northern latitudes.
Health in Color

Controversial as Jablonski’s ideas may sound, they certainly do have far reaching implications for health. As she puts it, “Often we are unaware that we are living in environments in which our skins are poorly adapted.”

Light-skinned people living in the tropics may face a higher risk of having babies with neural tube defects. In 1996, Pablo Lapunzina reported that several women exposed to UV light in tanning beds had babies with spina bifida. More recently, Borradale and colleagues reported that healthy white women in Queensland, Australia who spent more time in the sun had less folate circulating in their blood.

On the other hand, dark-skinned people who live in temperate regions or who mostly stay indoors in the tropics and don’t get enough sunlight, risk vitamin D deficiency and consequent immune system suppression. An eight-year study conducted in Cape Town, South Africa indicates that the incidence of tuberculosis (TB) surges after seasonal declines in blood vitamin D levels. In the study, vitamin D dropped by a mean of 46% in 63% of participants during the winter months when people were forced to stay indoors. Even here in the United States, the available data indicate that African-Americans are more likely to be deficient in vitamin D than white people.

For evolutionists such as Dr. Jablonski, skin color is about the sun and how close our ancestors lived to the equator. The risk-factors they associate with skin color arise from the physiological relationship between a person’s skin color and the environment they live in. Yet color and climate alone don’t explain how the color of a person’s skin impacts their health.

The Nigerian Reality

For a black man, as me, the social implications of being black in today’s world are as important as its health risk implications. Often those social implications are even more important because sociopolitical factors inherently determine the quality of and access to healthcare resources.

With a population of nearly 180 million people, Nigeria, my home country, is the world’s most populous black nation. It is also one of the richest countries today, ranking 23 on the World Bank’s most recent list of countries by gross domestic product (GDP). Yet Nigeria also ranks as one of the countries with the highest poverty rates; 62% of Nigerians live below the poverty line. More so, Nigeria is characterized by poor infrastructural development and a weak health system. Does skin color explain the high-level corruption, bad governance and political instability that have frequently been identified as the causes of the wealth-poverty disparity that plagues Nigeria? I think not.

Nigerians are dark-skinned. Of course, we appear in various shades of brown to black and there are many albinos as well as a few naturalized Caucasians, yet there is a sense of homogeneity in our complexion. What is not homogenous is ethnicity. Ethnologue, a comprehensive catalogue of human languages, has identified 522 native languages in Nigeria, a country the size of the U.S Mid-West. It is this cultural heterogeneity, and not just skin color, that has been identified as the principal cause of the social crises and political instability in Nigeria. The effect on the health system is disheartening.

Color in America

Here in the United States the picture is somewhat different; skin color appears to be a direct determinant in many cases of access to wealth, economic opportunities, justice and ultimately, health.

The Brandeis University wealth gap study revealed disturbing statistics on the black-white economic inequality. According to the results of that research, over the past 25 years, the wealth gap between blacks and whites has nearly tripled. Specifically, whites have a median household wealth that is 14 times greater than that of blacks, blacks have 40% less home ownership and the median income for black households
is less than 60% that of white ones. Worst still, the jobless rate for blacks is twice that of whites and as such more than 25% of blacks live in poverty, while fewer than 10% of whites do.

The International Convention on the Elimination of all forms of Racial Discrimination (ICERD), an agency of the United Nations, recently reviewed the issues of racial justice in the U.S. Its report details several recommendations that highlight issues with racial profiling, illegal surveillance, the criminal justice system and excessive use of force by law enforcement officials. The report even identifies the disparate impact of environmental pollution of an issue of racial discrimination in America. Blacks have been disproportionately impacted by all of these.

A summary of the chilling data put forward by the Center for Disease Prevention and Control (CDC) indicates that, compared to non-Hispanic whites, African American adults are nine times as likely to be diagnosed with HIV, eight times as likely to die from HIV, 60% more likely to be diabetic, 40% more likely to be obese, 40% more likely to die from stroke, 30% more likely to die from heart disease, etc., etc.

The end result of the socioeconomic inequities faced by dark-skinned people in the United States has been a persistence of health disparities.

Color and Health

Dr. Jablonski has shown that skin color directly affects human health risk. However, the cultural milieu in which we exist has an overriding effect on the policies that keep us healthy. Even in regions, such as Nigeria, where skin color is homogenous, sociopolitical factors still undermine the availability of and access to good quality health care services.

The bottom line is this: skin color in its interaction with the physical, cultural and policy environment in which a person find themself plays an important role in influencing health and well-being.

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