



In the Literature

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THE CHANGING FACE OF RACE

A patient's race or ethnic background is often taken into consideration when health care providers diagnose or treat individuals. For instance, a mother's race predicts risk for the condition known as hyperbilirubinemia, an acute form of neonatal jaundice affecting 2 percent of newborn babies. If left undetected, severe hyperbilirubinemia can lead to brain damage, deafness, and cerebral palsy. Such devastating outcomes can be prevented by early identification and treatment, however.

Historically, clinicians have used the mother's race to assess risk of newborn hyperbilirubinemia, with blacks being at lowest risk for developing the condition. However, according to a study led by Anne C. Beal, M.D., M.P.H., senior program officer at The Commonwealth Fund, how mothers define themselves in terms of race does not always match the race categories assigned to them by hospital staff—potentially undermining efforts to identify and treat the condition. These results and others are discussed in "[The Changing Face of Race: Risk Factors for Neonatal Hyperbilirubinemia](#)" (*Pediatrics*, May 2006).

Asking Patients About Race

Between January 2001 and October 2002, the researchers surveyed new mothers within six months of their having given birth at the Henry Ford Health System in Detroit. They collected data about the mothers and infants from the facility's medical records database and nursing logs. The mothers had been assigned a race, with or without their input, using seven categories: American Indian, Asian, black or African American, Hispanic, Middle Eastern/Arabic, white/Caucasian, and other.

The researchers also created a computerized telephone survey to obtain information on racial ancestry for the mother, father and newborn, as defined by the mother. Respondents were asked the open-ended question, "What is your infant's race?" They were then asked if their newborn was any other race. If the mother provided an additional race, the question was repeated up to three more times. Mother's and father's race were similarly investigated, allowing for up to five categories for each.

Medical Records Do Not Always Match Self-Reported Race

Physicians most often use medical record–documented maternal race as a variable to predict the risk of hyperbilirubinemia, the researchers say. However, for many mothers in the study, race in the medical record did not match self-reported race. Of 145 mothers documented as white in the medical record, only 64 percent self-reported as white, with 13 percent self-reporting as Hispanic, 3 percent as Middle Eastern, and 11 percent as two or more races.

Of the 427 mothers documented as black in the medical record, 70 percent described themselves as black and 23 percent as two or more races. The researchers also found poor agreement between the medical records and self-reported race in the Asian and Middle Eastern categories, with only 35 percent and 50 percent agreement, respectively.

Although 15 percent of mothers reported two or more races for themselves, and 9 percent of mothers reported two or more races for the fathers, only 11 percent of mothers reported their newborn fell into this category. According to the researchers'

analyses, this figure should be 24 percent—based on the number of multiracial mothers and fathers and on the number of babies born to parents of different races.

Newborns defined by their mothers as being of two or more races are of special interest, say the researchers, because the race of the mother—often used to predict risk of hyperbilirubinemia—does not fully represent the infant’s heritage. Of 93 newborns reported as being of two or more races, if given a single choice of race, 23 percent were assigned to the mother’s race and 25 percent to the father’s race, with 11 percent assigned to the race neither of the mother nor father. For the 70 newborns whose parents did not have the same race, only 45 (64%) were reported by their mothers to be of more than one race. Therefore, the authors detected no discernible patterns for how multiracial children were identified when only a single race classification category was available.

Conclusions

Today, with an increasing number of children born to parents of two different races, using a single race category may no longer be a valid way to identify risk for hyperbilirubinemia. “Depending on

their ancestry,” the researchers say, “their infants’ risk for neonatal jaundice may be severely underestimated if their clinicians view them as black without additional ancestry.”

Whether data on race are being collected to measure health disparities or, as in this case, as a factor of biological risk, there is a pressing need to develop more rigorous standards. Self-report, the researchers say, is likely the most valid method for obtaining this information.

Facts and Figures

- The number of children in interracial families grew from less than 500,000 in 1970 to approximately 2 million in 1990.
- The women who self-reported as two or more races were most likely to be documented in the medical records as black.
- More than 70 percent of Hispanic mothers defined themselves as Hispanic only, without referring to a race in addition to their ethnicity.

Concordance Between Self-Reported Race and Medical Record-Documented Race

Mother Self-Reported Race	Medical Record-Documented Maternal Race (in percentages)		
	White	Black	Hispanic
White	64.1	1.2	—
Black	0.7	69.6	—
Hispanic	13.1	0.9	97.0
Two or more races	11.0	23.4	2.0
Other	6.2	2.5	0.5
Missing	4.8	2.3	0.5

Notes: Highlighted percentages denote concordance between mother self-reported race and medical record–documented maternal race. “Other” includes Middle Eastern, Asian, and American Indian.

Source: Adapted from A. C. Beal, S.-C. Chou, R. H. Palmer et al., “The Changing Face of Race: Risk Factors for Neonatal Hyperbilirubinemia,” *Pediatrics*, May 2006 117(5):1618–25.