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Prevention of Prematurity in Black and White

The study by Fiscella addresses one of the fundamental controversies in public health in the United States today: the continuing and growing racial disparity in preterm delivery and its possible link to elevated incidence of many urogenital infections in black women.[1,2] Improving the health of mothers and infants is a national challenge.[3] More than 250,000 low birthweight infants are born each year in the United States. Low birthweight is associated with increased risk of death and considerable long-term morbidity, including neurodevelopmental deficits, learning disabilities, behavior problems, and lower respiratory tract infections.[3] Preterm delivery and low birthweight remain the most important causes of neonatal mortality in the United States, particularly among black infants.[4] Most of the racial disparity in neonatal and infant mortality is due to the racial disparity in preterm birth and low birthweight.[5] A substantial body of literature documents this racial disparity, and examines the multiple putative causes and confounders surrounding it.[6]

Reviewing over 80 studies, Fiscella used the published figures for urogenital infection prevalence in the black and white population and relative risk estimates of preterm delivery to identify a potential role of these infections in the racial disparity for preterm birth. He reports a much higher incidence of bacterial vaginosis among pregnant black women, compared to white counterparts, and a strong, well-documented association between bacterial vaginosis and preterm birth. A more modest association in the same direction is reported for bacteriuria.

In attempting to identify and quantitate the contribution that urogenital infections make to preterm delivery, this study strives to identify the reasons for the disparity and offers a promise for an intervention in the form of prenatal antimicrobial treatment that can be easily evaluated and may, if effective and widely implemented, reduce the racial disparity by 35%–60%.

These findings suggest a strategy consisting of relatively simple and inexpensive tests to detect the presence of these infections (wet-mount or Gram stain of vaginal discharge, and urine analysis and culture).[7] Inexpensive antimicrobials administered orally are highly efficacious in eradicating these infections.[7]

Despite considerable limitations, the implications of this analysis are far-reaching. It proposes a strategy that:

- may greatly reduce both the rate of preterm birth in general, and the racial disparity in preterm birth;
- consists of inexpensive diagnostic and treatment protocols;
- does not require dramatic lifestyle changes.

For most adverse health indicators and causes of death, including infant mortality, rates in the black population are higher than in the white population, and are often the highest of any of the race/ethnic groups studied.[8] Infant mortality in the United States has declined markedly since 1950, with periods of rapid decline, marked by reduction of the racial disparity (1965–1980), and periods of slower decline with increase in the disparity (1950–1965, 1980–1992).[4] Declines have been lower for blacks than whites. The infant mortality rate among blacks in the United States exceeds that of most countries with complete infant mortality data, including some Third World countries.[9] Low birthweight prevalence has been markedly higher for blacks than for any other race/ethnic group, and was over twice as high in 1992 (13.3%) as that in the other race groups; the gap rose between 1980 and 1992.[8]

Interestingly, although late or absent prenatal care tends to be somewhat higher among blacks than among some of the other groups, the difference is not nearly as striking or consistent as the difference in birthweight, and can offer, at best, only a partial explanation for the much higher risk of adverse outcomes.[8] What is more difficult to appreciate is the difference in the quality of prenatal care received by blacks, and its ability to impact on the outcomes of interest (length of gestation, birthweight, preventable congenital and perinatal infections).[10]

Although very promising, the paper recognizes some limitations, one of which is that there is no way to tease out confounders which have a high degree of association with both preterm delivery and with the urogenital infections discussed. The authors acknowledge many of these, including smoking and other toxic exposures, the stresses of homelessness, marginal nutrition, and possi-

ble drug use. While some of the studies reviewed are controlled for known risk factors, many are not.

Moreover, Fiscella recognizes that antimicrobial treatment is not without risk to the mother or child. The possibilities of treatment failure and reinfection always loom in bacterial infections. Exposing a substantial number of women to antimicrobials may have some other untoward results as well. These include selection of resistant strains, risking puerperal or neonatal infections with difficult to treat organisms, and adverse reactions in mothers and infants.

Furthermore, it is clear that access to prenatal care, or to medical care during pregnancy, would be needed to implement this intervention. For over 40 years, a simple, inexpensive strategy has been available to prevent congenital syphilis through prenatal screening and penicillin treatment. Yet in 1991, 4,438 cases of congenital syphilis were reported in the United States.[2] Even in low prevalence populations, prenatal syphilis screening and treatment is cost-effective.[11] Over 50% of congenital syphilis cases occurred among infants whose mothers did not receive prenatal care. The occurrence of these cases indicates that prenatal care utilization and/or access in both inner-city and rural populations, critical to the implementation of the strategy suggested by Fiscella's findings, is insufficient.[12]

However, at least 30% of infants with congenital syphilis during the syphilis epidemic were born to women who were not screened or treated adequately, despite being enrolled in prenatal care.[12] Access to quality medical care in the United States is most limited, and may be declining, among those very populations where it is most urgently needed, including underserved populations, particularly low-income black women.

Even if every case of preterm birth attributable to bacterial vaginosis and bacteriuria were prevented, at least 35% of the racial disparity would persist. Nevertheless, the potential of even a modest reduction in the racial difference in preterm birth rates translates into thousands of infants' lives saved and improved and must not be undervalued. It is essential to continue efforts to identify and address the elusive elements of racism, decreased access to care, and socioeconomic, educational and behavioral risk factors which also affect the risk of preterm birth;[13] such efforts are likely to lead to benefits that extend beyond a reduction in preterm births. But results of recent published studies confirm the urgent need to evaluate treatment of urogenital infections.[14,15] The need to implement simple measures that narrow the gap, even modestly, is as clear as black and white.

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