

Racial Disparities in Birth Outcomes: Poverty, Discrimination, and the Life Course of African American Women

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Abstract

For many years, the focus of public health efforts to reduce birth outcome disparities has been on standard and augmented prenatal care programs. Yet, despite identifying numerous contributing mediators and improvements in both access and utilization disparities in birth outcomes between African American and whites persist and in fact have widened. Inconclusive research findings and less than effective interventions have led to suggestions for reframing the discussion of birth outcome disparities to more fully include the reality of African American women's lives. One suggestion has been to use the life course framework to examine how birth outcomes may be impacted by a woman's lifelong exposures to risk factors. This paper first examines prior efforts to improve birth outcomes. Secondly, it explores how the lifecourse framework can be used to better understand birth outcome disparities and offers suggestions for future strategies.

Introduction

Although major gains have been made in overall health in the United States, infant mortality, a universally accepted indicator of population health, is twice as high among African Americans as among whites, and this disparity has not only persisted, but increased over the past several decades (Frisbie, Song, Powers & Street, 2004). The most widely proposed explanation for this disparity is racial differences in socioeconomic status (Lu & Halfon, 2003). African Americans have more than twice the poverty rate of whites, and the relationship between poverty and infant mortality

has been well known since the beginning of the century. An early study in the *American Journal of Public Health* reported that as income doubled, the infant mortality rate was more than halved (Lathrop, 1919). The author recommended “medical and nursing care at the service of all mothers and infants in this country...community responsibility for decent housing and sanitation, but finally and fundamentally, a general recognition throughout the country that a decent income...is the strongest safeguard against a high infant mortality rate”(p. 277). Unfortunately, with the exception of increased access to prenatal care—an intervention that has proved to be ineffective in its present form (Lu, Tache, Alexander, Kotelchuck & Halfon, 2003)—these recommendations have yet to be implemented.

Importantly, although poverty is a significant contributor to racial/ethnic disparities in pregnancy outcome, higher socioeconomic status does not confer the same protection for African American women as for white women. Middle-class African American women still have higher rates of low birth weight than white women of the same socioeconomic status (Guyer et al., 1999). Numerous explanations have been proposed and studied but findings are inconclusive, and the causes of this disparity remain largely unknown (Lu & Halfon, 2003). This paper will review prior efforts to improve birth outcomes and offer suggestions for future strategies.

Prenatal Care Past and Present

Standard Prenatal Care

In an effort to reduce racial disparities in preterm delivery, low birth weight and infant mortality, a number of program and policy initiatives have been implemented, the majority of which have focused on prenatal medical care (Sardell, 1990; Schlesinger & Kronebusch, 1990). This includes a series of federally mandated expansions of state Medicaid programs for pregnant women which began in 1984, continued through 1990, and are still in place today (Howell, 2001). It was envisioned that the Medicaid eligibility expansions would increase financial access to prenatal care services for low income and near poor women, which in turn would increase the use of timely prenatal care and ultimately lead to reductions in negative birth outcomes and racial disparities (Sardell 1990).

Many other types of interventions and programs have been implemented to expand access to prenatal care and to promote continuous care throughout pregnancy (Wise, 2003). Surprisingly, however, a large body of literature has not established clear and consistent evidence that the use of standard prenatal care actually improves birth outcomes (Alexander & Korenbrot, 1995; Fiscella, 1995; Lu et al., 2003). Admittedly, there are some challenging methodological issues in assessing the impact of prenatal care on outcomes outside a randomized trial (Frick & Lantz, 1996). Taken together, however, the results from a wide range of studies strongly suggest that—despite the current policy focus—prenatal care, as it is currently conceptualized, is not an effective intervention for reducing poor pregnancy outcomes or racial disparities in these outcomes (Huntington & Connell, 1994; Kogan et al., 1998; Lu et al., 2003). This includes evaluations of the

Medicaid expansions for pregnant women, which suggest that this large policy initiative had little to no impact on infant health in the target population (Currie & Gruber, 1994; Howell, 2001; Schlesinger & Kronebusch, 1990).

In summary, although often heralded as a critical and even cost-effective strategy for improving population birth outcomes, standard prenatal care has come under increased scrutiny and criticism as a public policy approach to reducing socioeconomic and racial disparities in infant health (Alexander & Korenbrot, 1995; Frick & Lantz, 1999; Huntington & Connell, 1994; Lu et al., 2003). Public health practitioners, clinicians and researchers have increasingly emphasized that many important determinants of poor birth outcomes are not medical but rather social or contextual in nature (Anachebe and Sutton, 2003; David & Collins, 1991 and 1997; LaVeist, 1990; O'Campo, Xue, Wang & Caughy, 1997; Wise, 2003). As Huntington and Connell (1994) argued, the public policy focus on prenatal care implies that “there is a simple medical remedy for problems that are probably manifestations of deeply rooted social and economic factors” (p. 1306). Focusing on prenatal care in our public health policy prescriptions ignores the socioeconomic contexts in which women live, medicalizes a problem that is socially and historically complex, and thus contributes to the illusion that there is a “medical policy bullet” that can provide a comprehensive and efficacious solution (Frick & Lantz, 1999). The traditional public health perspective that an adequate income, decent work environments, safe neighborhoods and homes, good sanitation, solid nutrition, and freedom from discrimination are fundamental to healthy birth outcomes has become overshadowed by a biomedical focus on prenatal medical care as the cornerstone of the solution (Meckel, 2001). As Lu et al. (2003) recently argued, improving maternal and infant health will require the “re-conceptualization of prenatal care as part of a longitudinally and contextually integrated strategy to promote optimal development of women’s reproductive health not only during pregnancy, but over the life course” (p. 374).

Alternative Models of Prenatal Care

While standard prenatal care is not believed to be an effective way to improve population birth outcomes and to reduce racial/ethnic disparities therein, there is an expanded model of prenatal care that has shown promise in some high-risk groups, both in and outside of Medicaid populations (Joyce, 1999; Klerman, Ramey, Goldenberg & Marbury, 2001). This model—which is referred to as *enhanced*, *augmented* or *coordinated* prenatal care—generally involves the coupling of standard medical prenatal care with some set of social or human services. This includes such services as intensive nutrition counseling, substance abuse assessment and treatment, employment assistance, childcare assistance, housing referrals, domestic abuse assessment/referral, mental health counseling, etc. Research results to date suggest that this type of expanded medical services for pregnant women can improve birth outcomes in low-income populations or certain subgroups (Anachebe & Sutton, 2003; Buescher, Roth, Williams & Goforth, 1991; Lu et al., 2003). A number of states provide an augmented set of prenatal services to either all or a subset of Medicaid recipients, with some evidence of positive results on birth outcomes

(Baldwin et al., 1998; Gold 1993; Reichman & Florio, 1996; Turner et al., 2000; Wilkinson, Korenbrot & Greene, 1998).

A model of *coordinated* prenatal care is that provided by Certified Nurse Midwives (CNM). Professional midwifery practice was established in the United States in the 1920's to serve poor and vulnerable women and their families. From its inception in 1925 the first midwifery service in Hyden, Kentucky documented positive outcomes. Rural Eastern Kentucky at that time had one of the highest infant mortality rates in the country. Midwives have had remarkable success in lowering infant and maternal mortality rates. Eight studies examining midwifery care have shown its potential as an intervention to reduce preterm birth (Elliings, Newman, Hulsey, Bivins & Keenan, 1993; Heins, Nancy, McCarthy & Efird, 1990; Ickovics, 2003; Jesse, Seaver & Wallace, 2003; Lenaway, et al., 1998; MacDorman & Singh, 1998; Piechnik & Corbett, 1985; Visintainer, et al., 2000). Midwifery care differs from standard prenatal care in that it incorporates psychological, social and behavioral factors in addition to routine biophysical parameters.

Another promising model is the Centering Pregnancy Program. This program was developed by a Nurse-Midwife as an alternative to traditional prenatal care. Practitioners in the Centering Pregnancy Program see women in group settings versus using exam rooms for care. Research with predominantly African-American and Hispanic women by Ickovics et al. (2003) found a greater increase in birth weight for infants born to women in the group prenatal care cohort. This positive correlation was especially significant for preterm births. Additionally, mothers in the group prenatal care cohort maintained their pregnancy two weeks longer than those in the control group. As stated by Lydon-Rochelle (2004) "nurse-midwives cannot solve all the problems in our maternity care system, but a broader understanding of their role might have important benefits" (p. 1929).

A New Approach

Over the last several decades, a number of conceptual models have dominated the discourse on racial disparities in birth outcomes. Yet, despite identifying numerous contributing mediators and utilizing multiple methodologies, researchers have yet to explain all the differences in birth outcomes experienced by African-Americans as compared to other groups in the United States (Rich-Edwards, 2002). For instance, most studies that have controlled for differences in socioeconomic status (SES) continue to find poorer birth outcomes among African American women as compared to non-Hispanic Whites. Black women at every level of SES have higher rates of poor birth outcomes than their white counterparts (Lu & Halfon, 2003). As such, it appears that this health disparity cannot be fully explained by SES. These observations suggest that it is something other than SES accounting for differences in birth outcomes.

Given the mounting evidence that existing models have been less than effective in explaining disparities in birth outcomes, researchers in the area have proposed using a conceptual framework that incorporates theories related to the social determinants of

health. This conceptual framework posits that the absolute and perhaps even relative socioeconomic position of the mother (i.e., race and gender) determines her exposure to risk factors, including health-related behavior, and those factors that are measured on the population level (i.e., the distribution of disease) reflect this positioning (Krieger et al., 1993; Krieger & Zierler, 1995; Link & Phelan, 1995; MacIntyre, MacIver & Sooman, 1993; McEwen, 1998; McKinlay, 1993; Siefert, Heflin, Corcoran & Williams, 2000; Siefert, Bowman, Heflin, Danziger & Williams, 2001; Vander Stoep & Link, 1998; Williams, 1997; Williams, Yu, Jackson & Anderson, 1997). In addition, it is important to include a temporal component in any conceptual framework regarding birth outcomes which allows for a better understanding of women's health over the course of their lifetime. One such conceptual framework, the life course approach, uses a longitudinal and "integrative perspective" to account for women's health and development over their lifetime (Lu & Halfon, 2003).

Life Course Perspective. Kuh & Hardy (2002) offer this definition:

"Life course epidemiology is the study of the contribution of biological and social factors acting independently, interactively, and cumulatively during gestation, childhood, adolescence, and adult life on health outcomes later in life" (p.14).

Although a life course perspective has been promoted in the disciplines of psychology, sociology and anthropology, it has only recently gained attention as a mechanism of disease in clinical medicine and epidemiology. The life course approach does not discount the contribution of early-life factors, but rather studies their contributions jointly with later life factors to identify risk and protective processes across the life course (Kuh et al., 2003). Thus, the life course approach attempts to integrate biological and social risk processes instead of drawing dichotomies between the two. Much of the research on the role of early experiences on adult disease has been in the form of cohort studies examining the relationship between weight at birth and in childhood and later development of heart disease, stroke or diabetes. A life course approach has since generated hypotheses in many clinical disciplines regarding origins and mechanisms of disease, including disparities in reproductive health and birth outcomes (Kuh & Hardy 2002).

Application of the life course approach to reproductive health and birth outcomes has resulted in two mechanisms being postulated. Early programming and cumulative pathway mechanisms offer possible explanations for the persistent disparities seen in birth outcomes and maternal health. Both mechanisms find some support in current literature and are not mutually exclusive (Lu & Halfon, 2003).

Early programming. The early programming mechanism postulates that experiences and exposures during development may influence the function of systems or organs in a way that later may determine health or disease. For instance, researchers have hypothesized that maternal stress during pregnancy could influence a female fetus's vulnerability to preterm labor and low birth weight later in life by influencing the responsiveness of the hypothalamic-pituitary-adrenal pathway in the developing fetus (Rich-Edwards, 2002; Lu

& Halfon, 2003). Although there are no human studies examining early programming of reproductive health, there are a number of studies suggesting that fetal environment may be associated with the risk of developing heart disease, diabetes and hypertension in later life (Lu & Halfon, 2003).

Cumulative Pathway. The cumulative pathway mechanism suggests that stressors and exposures can accumulate over time to affect health and function. Several studies have concluded that chronic and repetitive exposure to stress results in elevated basal cortisol levels, exaggerated responses to stressors and immune-inflammatory dysregulation, resulting in increased risk for a number of adult diseases (Lu & Halfon, 2003). One notable example of a cumulative pathway is the weathering hypothesis. As outlined by Geronimus (1992, 1996), the weathering hypothesis proposes that a variety of disparate health statuses faced by African-American women are a result of cumulative socioeconomic and environmental disadvantage. It is postulated that, due to continued and cumulative exposure to these disadvantages, African-American women experience deterioration in health in early adulthood in ways that are related to poor birth outcomes. In fact, Geronimus (1996) found a fourfold increase in the risk of low birth weight and very low birth weight with increasing age among African American women but not among white women, supporting the role of cumulative pathway mechanisms. Recently, other studies have suggested that maternal exposure to the stress associated with racism is independently associated with poorer birth outcomes such as low birthweight and very low birthweight (Collins, David, Handler, Wall & Andes, 2004; Mustillo, et al., 2004).

Implications for Future Research

While improvements have been made in some aspects of prenatal care, there remains room for improvement. The expansion of Medicaid and augmented care has resulted in an increased utilization of prenatal services by all groups, yet racial disparities in birth outcomes persist. In fact, the gap between Whites and African Americans continues to widen. There are, however, promising models of expanded services for augmented care through Medicaid and midwifery models. More research is needed so that we can better understand how to tailor these models so they are effective with specific subgroups of women.

In addition to revamping models of prenatal care, a shift in the conceptual understanding of how good health is both defined and achieved is needed. The life course perspective affords us a chance to examine biological and social factors in an “integrative” approach focusing on health across the lifespan which will allow for a stronger focus on child and adolescent health. Not only must we improve physical health, but we must also begin to address issues such as poverty, racism and discrimination and their effects on women’s health. By doing so we will give women from marginalized, disadvantaged groups in our society the opportunity to enter into their childbearing years in better health.

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