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Race inequality in epidural use and regional anesthesia failure in labor and birth: An examination of women's experience

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ABSTRACT

Objective: A known racial disparity in medical care is that white women receive epidurals more often in labor than do women from other racial and ethnic groups. Medical researchers have framed this disparity as due to some women's lack of access to anesthesia. Further, an unexamined racial disparity in medical care is that anesthesia failure in labor and birth may also have racial disparity. We explore the organizational processes that may lead to racial disparity an epidural use and regional anesthesia failure in labor and birth.
Methods: We draw on semi-structured, in-depth interviews conducted with 83 women in June through December, 2010 the day after they gave birth at a New England tertiary care hospital.
Results: Among women who did not plan to have an epidural, women of color were more likely to face pressure to accept the epidural by hospital medical staff. Further, among women who received anesthesia (either during vaginal delivery or a C-section), women of color were more likely to experience failure in their pain medication and were less likely to have their pain and anxiety taken seriously by doctors.
Conclusion: Overall we challenge the contention that access is the primary way women's epidural experiences are influenced by race and suggest an alternative lens through which to understand racial dynamics and epidural use and anesthesia failure in labor and birth.

Introduction

Epidemiological studies have documented racial and ethnic disparities in birth outcomes [1] and in birth procedures such as cesarean sections [2–4], induction of labor [5–8], and epidural use [5,9–11]. Previous research on race and epidurals has focused primarily on the finding that women of color are less likely to have epidurals during labor and birth than are white women [9,11,12]. That research argues that these disparities result from racial inequalities in access to epidural anesthesia.

Our paper suggests that race may indeed shape women's experiences with epidurals during labor and delivery, but we challenge the contention that this relationship is primarily one of access. On the one hand, different rates of epidurals may reflect racial differences in women's preference, rather than differences in access (i.e. different racial/ethnic groups may be more or less favorably disposed to pain-relieving medications during childbirth). We show in this paper that white women were more likely to plan for epidurals than were women of color. On the other hand, we find evidence to suggest that race – specifically differences in institutional treatments that vary by race – does matter for women's experiences with epidurals. Among women who were unsure about (or opposed to) epidurals, women of color were more likely to face pressure to accept the epidural by hospital medical staff. Further, among women who received anesthesia (either during vaginal delivery or a C-section), women of color were more likely to experience failure in their pain medication and were less likely to have their pain and anxiety taken seriously by doctors. These dynamics were largely mediated by education level, such that women of color with less education were more likely to face pressure to receive pain medication and less likely to be listened to when that medication failed.

Overall we challenge the claim that access is the primary way women's epidural experiences are influenced by race and suggest an alternative lens through which to understand racial dynamics and epidural use and anesthesia failure.

Epidural use in labor

An overwhelming majority of women who give birth in the U.S.—83 percent—receive pain medication at some point during labor, and epidural analgesia is the most common method of analgesic pain relief—62 percent of women who deliver vaginally receive an epidural [5]. Declerq et al. [5] find that 74 percent of non-Hispanic white women receive an epidural, compared to 63 percent of Black non-Hispanic women and 69 percent of Hispanic women. Osterman and Martin [10] find this same racial disparity, examining 2008 birth

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certificate data for 27 states. They find that for women who had a vaginal delivery, white women had the highest rate of epidural use (68.6 percent), followed by Black women (62.1 percent), Asian women (61.8 percent), Native Hawaiian and Other Pacific Islander women (52.8 percent), Hispanic women (47.7 percent), and American Indian and Alaska Native women (42.1 percent).[1]

Medical researchers have framed the difference in epidural use by race as an issue of access, contending that women of color do not have equal access to this method of pain relief [9,11,12]. The problem with this conclusion (acknowledged by the authors of these studies) is that the studies cannot take into account the *preferences* of the women because they rely upon data obtained from birth certificates. Rather, the conclusion rests on untested assumptions that almost all women *want* epidurals to deal with the pain of labor and that some women are denied access to epidurals. Medical researchers' framing of this issue as a problem of access is likely due, at least partly, to the cultural emphasis on the pain of childbirth and the cultural belief that almost all women want to use analgesic pain relief (for examples of this cultural portrayal see [13,14]).

Regional anesthesia failure, defined as pain not taken care of by the regional pain block, reinsertion of the catheter, or regional pain being blocked on only one side of the body, may also be associated with race.[2] Both women who labor and women who have a surgical (i.e. cesarean section) delivery face the potential of regional anesthesia failure. The literature on anesthesia failure in labor and birth is notably absent of research on racial differences. We examine women's reports of their experiences of epidural use and failure during labor and birth as a way to understand how race may play a role in both.

Theory

Epidural use and regional anesthesia failure may reflect hard to capture micro-level social interactions that take place within the hospital. This is important because hospitals, like all organizations, reflect racial and gendered dimensions that may contribute to disparate processes and outcomes [15–19]. Research into race in organizations is decidedly underdeveloped compared to research on gendered organizations [20]; however there has been a recent call by scholars to study inequality regimes, defined by Joan Acker as "loosely interrelated practices, processes, actions, and meanings that result in and maintain class, gender, and racial inequalities within particular organizations" ([15], p. 443). An organizational process that occurs within hospitals that may reproduce racial inequality in the larger society is the cultural images of race reflected in informal interactions between maternity clinicians and their patients [15].

Patricia Hill Collins' classic work on images of black women is instructive here. She suggests that the common images of black women – Mammy, Matriarch, Welfare Mother, and Jezebel – are integrated into a cultural view of Black women and are meant to keep Black women subordinate in society [21]. All of these images are negative images of Black women as mothers, which suggests that the view of pregnant women as mothers is likely saved for white women. The collision of the idea that women *should be* "good" mothers and the image of Black women as *bad mothers* may set in motion disrespect for women of color that may enter into the provider–client relationship. In short, we do not enter organizations as clean slates; we are encumbered with cultural images and expectations, and these expectations and images inform day-to-day interactions in organizations and contribute to the reproduction of racial inequality within organizations.

We suggest that racial disparity may come out in epidural use and anesthesia failure in three related ways. First, in many hospitals epidurals are used as a way to allow nurses to monitor more than one woman while at the same time documenting care, a legal imperative [22]. Although women who have epidurals require more careful monitoring [23], such monitoring can be done at regularized intervals, thus easing the pressures of rigorous documentation requirements. Caring for an unmedicated woman during birth is arduous, unpredictable, and may take the nurse away from documentation duties for extended periods of time. When women do not go along with the organizational imperative for laboring women to have epidurals, direct organizational controls may be used to ensure compliance, ranging from persuasion to pressure [24]. We suggest that although women of all races are subject to persuasion by clinicians to use epidurals to deal with labor pain, women of color are more likely than white women to be subjected to pressure through the threat of sanctions if they will not go along with an epidural suggestion.

Second, epidural failure in labor may also take on a racial dimension. Anesthesia failure can be attributed to several factors, including the technical skill of the physician and the methodology used [25]. In other words, the performance of the physician and his/her methodology may vary, and we suggest this may depend upon the woman's race. Performance no doubt reflects time, care, and patience in placing the epidural.

Third, when regional anesthesia failure occurs during a C-section, the discretion of the anesthesiologist becomes extreme. As Portnoy and Vadhera ([25], p. 51) explain, "If the patient's complaints persist, pharmacologic management is the next logical step. The choice of specific agent may depend on the severity of pain and discomfort, as well as the anesthesiologist's preference." They go on to suggest that when failure happens during C-section, general anesthesia "must be strongly considered if the patient continues to have pain/discomfort" ([25], p. 53). However, the discretion of the anesthesiologist means that race may affect how serious he/she takes the woman's complaints of pain and how the pain complaints are handled.

Dillaway and Brubaker conducted one of the few studies to examine how women of different races experience epidurals [26]. They found that Black teens focused on medical risks of epidurals and were more likely to forego epidurals in labor than were middle and upper class white women, who viewed epidurals as a safe way to avoid labor pain [26]. This study is important because it suggests the importance of asking women their attitudes about and experiences with epidurals and also because it shows that Black mothers were anxious about the pain or danger of medical interventions (like epidurals) perhaps because of their own or others' experience with suboptimal care [26]. The weakness of the study is that the two groups of women were from different geographical parts of the country. Dillaway and Brubaker interviewed 51 African American teens in Southern states and 19 white, middle- to upper-class women in a Mid-Atlantic state [26]. Yet, epidural rates vary starkly not only by state but also by hospital, and to understand how epidural use by race differs, one must take this into account.

Many studies examine the risk factors of anesthesia failure during labor and during C-sections. For example, researchers have considered how risk varies depending upon whether the woman has combined spinal-epidural anesthesia versus epidural analgesia or whether the woman has spinal anesthesia versus epidural anesthesia [27,28]. Researchers have also considered whether risk varies

[1] The reason that the percent of women in the U.S. who have epidurals is higher than any of the breakdowns by race is because the reporting is done differently. The findings of Declerq et al. [5] are based on a survey of a random sample of women who gave birth in the U.S. between July 2011 and June 2012, while Osterman and Martin [10] rely upon information from U.S. birth certificates.

[2] We will use the term "anesthesia" to refer to failure of epidural pain relief in labor and epidural and/or spinal pain relief in C-section. Although analgesic is the more appropriate word for failure of an epidural in labor, we find switching between analgesic and anesthesia in discussing failure to be confusing.