Refusal of Epidural Anesthesia for Labor Pain Management by African American Parturients: An Examination of Factors

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Most parturients use epidural anesthesia for labor pain management, with excellent pain relief possible within minutes of administration. An examination of the literature revealed a disparity of use that existed along ethnic and racial lines, with African Americans less likely to accept epidural anesthesia. No known studies to date had explored the reasons for this disparity. The purpose of this qualitative study was to identify those factors that influence African American parturients to decline epidural anesthesia for labor pain management. Andersen's Behavioral Model of Health Services Use served as the conceptual framework for the study. Twelve primiparous African American parturients were selected for participation through the use of purposive (homogeneous) sampling. Semistructured interviews consisting of closed-ended and open-ended questions were used for data collection. Data analysis involved open coding, core category identification, selective coding, and theme identification. The study revealed 3 themes that helped address the research question: fear, naturalism, and family influence. In nurse anesthesia practice, a thorough understanding of those factors examined in this study may better enable healthcare providers to assist African American parturients in the decision-making process, with the potential for increased patient satisfaction and improved quality of life.

Keywords: African American, anesthesia, disparity, labor epidural, refusal.

Epidural anesthesia ("epidural") for labor pain management is used by many parturients, with excellent pain relief possible within minutes of administration. The anesthesia intervention contributes to improved outcomes and patient satisfaction, with minimal effects on the fetus and newborn.[1] Fyneface-Ogan et al[2] reported that the overall labor experiences were better in women who received an epidural (80%) compared with those without epidurals (4%). Patient satisfaction and outcomes are essential more than ever because the Centers for Medicare and Medicaid Services now links reimbursement to facilities partially based on these metrics.[3]

An examination of the literature revealed a disparity of use that existed along ethnic and racial lines, with African Americans "far less likely" than whites to accept an epidural.[4] No studies to date had explored the reasons for this disparity. Using Andersen's Behavioral Model of Health Services Use[5] as the conceptual framework, this qualitative study was conducted to identify the factors that influence African American parturients to decline epidural anesthesia for labor pain management. This model is often used to explain factors that lead to the use of healthcare services. It explores the dynamic relationship between 4 key domains: environment, population characteristics, health behaviors, and outcomes.[5]

The literature revealed that although the parturient's perceptions and beliefs regarding epidural anesthesia may be based on unfounded fears,[6] they may involve deeper ideologies related to body and childbirth.[7] In fact, there are many variables that affect the decision to accept epidural anesthesia, such as age,[8] parity,[9-11] level of education,[10,11] and income.[11]

The literature further revealed a disparity in regional anesthesia (epidural, spinal) use when ethnic groups were compared.[12-14] Likewise, racial disparity was evident when the available literature was inspected.[15-19] African American parturients are less likely to accept epidural anesthesia.[4]

There were some identifiable gaps in the literature. Although racial disparity in the use of regional anesthesia was substantiated, no known research to date had specifically examined the reasons why African American parturients declined epidural anesthesia for labor pain management. Also, much of the available background research was dated. A study that identifies the factors that prompt African American parturients to reject epidural anesthesia could likely lead to informed decision making, as well as improved health behaviors and outcomes.

The purpose of this study was to identify the factors that influence African American parturients to decline epidural anesthesia for labor pain management. The potential implication of the study findings is that through this knowledge, healthcare providers may be better able to assist parturients in the decision-making process. This may lead to a decrease in racial disparity, an increase in

1. Did you receive an epidural for pain management while in labor?
2. Were you offered the opportunity to have an epidural placed?
3. Can you tell me what prompted you to decline the epidural?
4. Did you feel pressure from family, friends, or hospital staff to decline an epidural?
5. How do your family members or friends feel about epidurals?
6. Can you tell me a little about the cultural perspectives of African Americans with regards to epidurals?

Table 1. Interview Questions for Those Parturients Who Declined Epidural Anesthesia Throughout Labor

1. Did you receive an epidural for pain management while in labor?
2. Can you tell me what prompted you to initially decline the epidural?
3. What was the greatest factor that influenced you to change your mind?
4. Did you feel pressure from family, friends, or hospital staff to decline an epidural?
5. How do your family members or friends feel about epidurals?
6. Can you tell me a little about the cultural perspectives of African Americans with regards to epidurals?

Table 2. Interview Questions for Those Parturients Who Initially Declined Epidural Anesthesia

patient satisfaction, and an improvement in the quality of life. The research question developed asked, What are the factors that prompt some African American parturients to decline epidural anesthesia for labor pain management?

Methods and Materials

• ***Design.*** The research design selected for this study was grounded theory. Grounded theory[20] is an inductive method used to formulate a theory that attempts to explain the actions of a population.[21] The method is labeled as such because it is grounded in the systematically collected and analyzed data[22] that come from the participant's actions, views, behaviors, and perspectives.[23,24] Interviews and observations are the primary means of data collection with grounded theory.[21]

Polit and Beck[21] state that grounded theory attempts to make sense of behaviors or actions in an area of interest and that this theory is "from the perspective of those involved."[21] Grounded theory is inductive and allows for an open approach to the primary social process being studied.[21] Concepts emerge, and theories are generated. Additionally, this method is selected when no theory exists that adequately addresses a phenomenon. For these reasons, this strategy was the most appropriate research design for this study. The investigator sought to gather data directly from African American parturients who declined epidural anesthesia for labor pain management. The study loaned itself to a broad and inclusive collection of behavioral patterns and ideas that helped explain the participant's actions.

Grounded theory methods mesh well with the conceptual framework that was used for the study, Andersen's Behavioral Model of Health Service Use.[5] Using this inquiry strategy, the investigator collected data that reflected the variables of personal health practices and use of healthcare services within the health behavior domain in Andersen's model. The concepts and categories that emerged revealed insight into 2 of the 3 remaining model domains: population characteristics and environment.

The interview was the method used for this study. A semistructured approach allowed the investigator to retain the ability to lead the interaction as needed to cover a specific list of questions and to address key areas of interest yet encouraged participants to speak freely and from their perspective. The interview questions (Tables 1 and 2) were reviewed by a panel of 4 content experts. This panel consisted of 3 Certified Registered Nurse Anesthetists and an anesthesiologist with experience that ranged from 23 to 26 years. These providers, 2 women and 2 men, practiced in a variety of settings, including community, large urban, and university-based facilities that served the study population. Their practices involved placement and management of epidural anesthesia for labor pain management. The educational training and work experiences of these anesthesia providers were invaluable in the effort to ensure content validity in the interview questions.

To ensure human subject protection throughout this study, the investigator completed the Collaborative Institutional Training Initiative's (https://about.citiprogram.org/en/homepage/) courses in Responsible Conduct of Research, Biomedical Research, Conflicts of Interest, and Good Clinical Practice–Social and Behavioral Research Best Practices for Clinical Research. The investigator received institutional review board approval from William Carey University in Mississippi and the study hospital. In addition to being informed about the purpose of the study, all potential participants were advised that participation was voluntary, participation could be withdrawn at any time, and no identifying information would be used, including name, date, birthdate, social security number, or medical record number.

• ***Sampling.*** The investigator used purposive (homogeneous) sampling to select parturients that were willing to participate in the planned study. Sampling was continued until data saturation was reached. This was the point at which no further new concepts or patterns emerged from the data.[21]

The study was conducted in the postpartum unit of a 628-bed, not-for-profit hospital with a Level II trauma center. The nationally accredited, licensed institution was located in a large urban city in the southeastern United States. The racial makeup of the city was 79.4% African American, 18.4% white, 1.6% Hispanic, 0.4% Asian, 0.1% Native American, and 0.4% other race or ethnicity.[25] The

sample population for this study consisted of parturients who presented to the labor and delivery unit for vaginal delivery. Inclusion criteria included primiparous African American patients who were offered yet refused epidural anesthesia to manage their labor pain and parturients who were offered and accepted epidural anesthesia to manage their labor pain but only after initially refusing. Non-English-speaking patients, as well as any patients who experienced complications during or after delivery, were excluded.

• ***Data Collection.*** The investigator identified patients who met the inclusion criteria through a thorough examination of the labor and delivery unit's admission log, patient charts, anesthesia records, and end of shift reports from hospital nursing staff. Recruitment began by approaching all potential participants in their hospital rooms in the postpartum unit on postdelivery day 1. The delay in data collection minimized any undue stress and any obligation patients may have felt to participate. This produced more accurate and comprehensive replies to the interview questions. Additionally, the influence of pain medicines given during labor had subsided, which allowed for more coherent and cohesive thoughts.

The investigator was introduced to the patient. The purpose and goal of the visit and proposed study were fully explained. Patients were assured that participation was entirely voluntary and could be withdrawn at any time. They were asked whether the current time was appropriate to speak. If other persons were present, the participant was asked whether the interview should be delayed. No participants requested delays in data collection. The investigator provided a written statement regarding the research that embodied the elements of consent. The safety of personal data and responses was addressed with the participants.

Data were obtained through interviews of primiparous African American patients who initially or continually declined epidural anesthesia during labor. The initial interview questions were closed-ended and used to confirm that the participants were offered epidural anesthesia for labor pain management and that they initially or continually chose to decline the intervention. The next interview questions were open-ended in an attempt to elicit the participant's reasoning for declining an epidural. Specifically, the participant was interviewed as to any influence from family, friends, culture, or hospital staff that may have affected the decision to accept epidural anesthesia.

• ***Data Analysis.*** Data analysis within the qualitative paradigm is a process that occurs in concert with data collection.[21,23] It is the parceling, purposeful deconstruction, and extraction of the meaning of gathered data. Interviews were audiorecorded using a mobile digital device. Interview conversations were transcribed by the investigator within 4 hours of completion. Timely transcription helped to ensure recall of intricate details, which was extremely important during the coding process. The investigator began "memoing" (recording reflective notes) immediately following the conclusion of the interview and continued throughout coding and analysis of the data. Memoing encouraged reflection and assisted in tying concepts together while also contributing to credibility and trustworthiness.[21,26]

Commencing immediately with the first interview and without the use of electronic software, the investigator began open coding. *Open coding* is the basic deconstruction of the data in which words and phrases are examined for commonalities and differences of events. Identified codes were written in the margins of the transcribed interviews for ease of organization and recollection of code location. As open coding continued, the investigator began creating a template or coding scheme. Underlying and meaningful concepts began to emerge from data scrutiny and templating. The concepts revealed during open coding began to assist the investigator in identifying succinct categories or variables. These variables represented the participant's behavior patterns that resolved the primary concern. Once core categories were well established, the investigator ended open coding, and only data related to the core categories were coded.[21] This was selective coding. The combination of selective coding, theoretical coding (application of theory), and memoing revealed broad descriptions or themes that served to answer the research question.

Results

The data were collected from interviews conducted with 12 English-speaking, primiparous African American patients who presented to the labor and delivery unit for vaginal delivery. All participants were offered epidural anesthesia to manage their labor pain and refused or at least initially refused the option. Ages ranged from 19 to 34 years, with a mean age of 23.6 years.

Four parturients had vaginal deliveries with no labor epidural. Four patients had vaginal deliveries with the use of epidural anesthesia to manage their labor pain. Pain was the reason cited by all patients who eventually opted for epidural anesthesia. The remaining 4 patients required cesarean deliveries because of arrest of labor. Of those patients, 2 chose epidural anesthesia while in labor, and 2 continued to decline the intervention and therefore required spinal anesthesia for their surgical course.

Data analysis revealed 3 prevalent themes: fear, naturalism, and family influence.

• ***Fear.*** References to fear were the most prevalent factors reported, with 7 of the study participants citing some degree of concern regarding bodily harm or discomfort. Words such as *paralysis, complications*, and *back pain* were commonly used in responses to the interview questions.

An overall slower postpartum recovery, lingering

back problems, pain on insertion, and inability to remain motionless during epidural placement were other misgivings related to the acceptance of epidural anesthesia. Participants stated that information sources included friends, family, and social media. Participants did not consult evidence-based sources, scientific literature, or medical professionals to confirm these reported issues. None of the participants attended an optional prenatal childbirth class, which the study hospital offers free of charge.

• ***Naturalism.*** The idea of wanting to permit labor to occur in a "natural" progression and without intervention was the second-most common theme evident in the data analysis. Six of the participants referred to a desire to experience an unencumbered birth. Participants used phrases such as *pain you can bear, way more natural*, and wanting to avoid *the easy way out*.

Although a philosophical identification with naturalism was prevalent with most of those choosing to decline epidural anesthesia, other associated influences were detected. An underlying curiosity to relinquish to the "feeling," to push the body's ability, and to fully experience the process were important for many of the parturients. Culture native to one participant's birthplace greatly influenced her decision to decline any intervention. The general lack of epidural availability and a different approach to pain management in her native country guided her in the preference to forgo epidural anesthesia.

• ***Family Influence.*** Influence by female family members, specifically mothers and grandmothers, was a third theme identified through data analysis of the participants' interviews. Three of the participants referenced matriarchal impact on their decisions to decline epidural anesthesia. In addition to explicitly stating that their family members were opposed to them receiving epidural anesthesia, 2 of the participants recounted feelings of matriarch idolization and their wishes to mimic their relatives' anesthesia-free experiences.

Participants were asked whether they believed there existed any perspectives specific to African American culture that may affect their decision to decline epidural anesthesia. Responses included state of mind, resiliency, distrust of the medical establishment, and historical lack of access.

Discussion

Epidural anesthesia is a safe and reliable method to manage pain during surgical and procedural interventions. However, epidural anesthesia remains underutilized in the obstetric population. Additionally, previous research has revealed a disparity in the acceptance and use of epidural anesthesia for labor pain management along ethnic and racial lines. No known literature to date had examined the factors that specifically influence African American parturients to decline epidural anesthesia. This study addressed those factors and contributes to the current evidence base through the assessment of experiences by African American laboring patients. Data analysis revealed 3 prevalent themes: fear, naturalism, and family influence.

References to fear were reported by 58.3% of the study participants, with concerns of paralysis, insertion complications, and lingering back pain emerging as the greatest concerns. This theme echoes the findings of available literature on the public's perceptions of regional anesthesia.[6] Matthey et al[6] go on to point out that the public lacks understanding of the advantages, disadvantages, and risks of epidural anesthesia. This may be due in part to the fact that much of the information presented to parturients regarding epidural anesthesia originates from family and friends.[27-31]

The implication of naturalism was voiced by 50% of the study participants. Allusions to a desire to allow the birthing process to occur unaided and without intervention were very strong. Many parturients envisioned natural labor to be an altruistic choice in the hope of diminishing negative side effects on the body and the fetus. Others feared that epidural anesthesia would attenuate their ability to actively participate in the labor experience and therefore exacerbate the sense of loss of control. These sentiments are similar to findings noted by others.[9,32,33] Heinze and Sleigh[7] reported that women who opted for an epidural-free delivery had a higher level of desire for active participation as well as an internal locus of control related to childbirth with less dependence on external support for decision making.

References to family influence, specifically female advocacy against epidural anesthesia, were noted in 25% of the participants' responses to the interview questions. An undercurrent of reverence regarding matriarchal decisions to forgo epidural placement in their own delivery experiences emerged during the interview process. Family or partner influence is supported by previously published research. Harkins et al[34] reported partner preference to be a factor in the patient's decision to receive epidural anesthesia. This is especially important, because the desire for epidural placement is lower in expectant fathers than in expectant mothers.[35] Advice from family and friends against epidural placement ranges from 36%[36] to 76.5%[37] of epidural-refusal cases in published studies.

• ***Study Limitations.*** As a result of investigator observations during data collection, a newly identified limitation is that the presence of family, friends, and partners during the interview process may have influenced the participants to avoid sharing sensitive or truthful information. Additionally, the study was conducted in only a single region (southeastern United States).

• ***African American Culture.*** Responses by participants addressing African American perspectives regarding epidural anesthesia refusal echo those sentiments found in

the literature. McCubbin et al[38] address the impact and value that ethnicity and culture exert on resiliency and survival of African Americans when faced with adversity. Undisputed lack of access to healthcare and documented disparities are also acknowledged.[39] Additionally, a study conducted by Jacobs et al[40] revealed several significant contributory factors that influence an African American patient to distrust the medical establishment and ultimately reject health services. These factors include observed or perceived incompetence, personal traits of the physician, impressions of greed or racism, and historical experimentation on African American patients.

Conclusion

The purpose of this study was to identify the factors that influence the refusal of epidural anesthesia by African American parturients. Using Andersen's Behavioral Model of Health Services Use[5] as the conceptual framework, the study revealed 3 themes (fear, naturalism, and family influence) that helped to understand the parturient's decision to forgo epidural anesthesia. These themes were variables within the population characteristics domain in Andersen's model. It is this domain that directly affects the parturient's health practices and decision to use health services.

The results of this study have implications for nurse anesthesia education and practice. An incidental finding was that false information regarding the risks of epidural placement is propagated by many sources. Nurse anesthetists have an obligation to the public to disseminate sound and evidence-based data. As such, patients, their families, friends, and partners must be educated before admission to a medical facility as to the benefits and risks of epidural anesthesia. Likewise, nurse anesthesia program curricula must adequately prepare students to address the introduction of epidural anesthesia as an obstetric option.

In nurse anesthesia practice, a thorough understanding of those factors examined in this study may better enable healthcare providers to assist parturients in the decision-making process. Nurse anesthetists must acknowledge fears expressed by their patients and be able to present them with current data regarding their choices. This will ensure that decisions are informed and not based on folklore, rumors, or half-truths. Respect and support of the parturients' different cultural perspectives and beliefs that influence their healthcare decisions are prudent. Nurse anesthetists must have an awareness of the strong influence exerted by families, friends, and partners and be willing and able to deal with those relationship dynamics.

This study was conducted at a facility in a large urban city located in the southeastern United States. It is not known whether these results are indicative of beliefs held in other localities. Several of the interviews were conducted with family, friends, and partners present, which may have prevented participants from giving completely truthful responses. None of the participants attended an optional, hospital-sponsored prenatal childbirth class, which is available free of charge.

Recommendations for future research include the following:

1. Replication of the study with populations representative of locations outside the southeastern United States.
2. Replication of the study with a survey submitted via email after hospital discharge. This will strengthen responses by allowing time for reflection and privacy from outside influences.
3. Comparison of responses from parturients who attend prenatal childbirth classes with those who do not.

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