Changing the Perception of Epidural Labor Analgesia in Nigerian immigrant Women Living in the United States

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Abstract

Nigerian immigrants to the United States (U.S) are among other African immigrants that make up about 5% of the entire U.S. population. Obstetric Nigerian immigrants to the U.S. have been chronically undermedicated during labor. Research has shown that Nigerian women remain skeptical of the epidural and neuraxial analgesia. Traditional beliefs, stigma in the community, linguistic discordance, lack of culturally competent providers, biased provider attitudes and lack of trust in the U.S. health system are factors that have contributed to this limitation. The DNP project utilized a 10-minute QR-code-accessed original video with 'pidgin English' undertone that outlined the key benefits of neuraxial labor analgesia and the misconceptions about it. The project provided a language-directed education on neuraxial labor analgesia to 23 participants who attended church service on the day of implementation. Data analysis showed changed and improved post scores from the participants on epidural labor analgesia utilization. This DNP project proved that a language-directed educational video on the use of epidural analgesia improved the willingness of Nigerian immigrant women living in the U.S. to accept the intervention. 91% of the respondents made a positive correlation between the video and their improved perception.

Keywords: labor pain, immigrant Nigerian parturient, neuraxial labor analgesia, language directed education, community health, Nigerian religious beliefs.

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CHAPTER ONE

As ethnic and racial diversity continues to increase in the U.S, so has the need for healthcare personnel, including anesthesia providers, to understand the expectations and concerns of this changing population regarding labor analgesia. International migration poses an ongoing challenge to the provision of obstetric care in the U.S. and there is evidence to suggest suboptimal maternal analgesia during labor in certain subgroups. Nigerian immigrant women to the U.S. are one group that has been chronically undertreated during labor.

Background and Significance

The U.S. is uniquely the only country on earth with many shades of all other countries within her fabric. Superior healthcare capabilities among other services, encourage immigration from countries across the globe to the U.S. African-born immigrants are among the fastest growing immigrant groups in the U.S, yet they are under-represented in healthcare research and tend to be categorized as African American or Black, which obscures any cultural nuances that might exist (Adekeye et al., 2017). Nigerian immigrants to the U.S are among other African immigrants that make up about 5% of the entire United States population. Thirty six percent of this 5% are from West Africa, and 14% of that are specifically Nigerians who migrated to the U.S. for multiple reasons, including family reunification, political disturbances in country of origin, education, brain drain, and the diversity visa lottery program (Omenka et al., 2020). African immigrants to the U.S are the least-studied immigrant group despite research and policy efforts to address health disparities within immigrant communities (Omenka et al., 2020). This health implementation project is a critical contributory effort to

address this gap in research, and to improve Nigerian immigrant parturient's experience through health education on epidural labor analgesia.

PICO Question Guiding Inquiry

When it comes to obstetric care and labor analgesia, research has shown that Nigerian women have remained skeptical of the epidural and neuraxial technique, predating the relocation of those that had migrated to the U.S. Olaleye et al. (2020) investigated the awareness and level of utilization of obstetric labor analgesia among women in Wesley Guide Hospital in Ilesha, Nigeria, and discovered that epidural anesthesia has not been fully accepted and is not routinely practiced in most health centers in the area. Providers in Nigeria are not likely to routinely offer epidural anesthesia or provide education regarding labor anesthesia. In addition, patients do not request epidural labor analgesia and are unaware of its efficacy (Olaleye et al., 2020).

Similar findings were also discovered by Anayo-Onyekwulu (2017) and Ezeonu et al. (2017), who presented evidence of poor level of awareness and utilization of epidural labor analgesia by women attending antenatal clinic in southeastern Nigeria. The author's mother gave birth to 9 children and two sisters had 7 and 3 children, respectively; and all these birth experiences were without any form of analgesic management. The PICO question developed for this DNP project is: In Nigerian immigrant women of childbearing age living in the United States, does educational intervention on the use of epidural analgesia during labor increase the willingness of the women to accept epidural analgesia during labor?

System and Population Impact

This DNP project focuses on Nigerian immigrant women of childbearing age living in the U.S. This population is a mixture of multiple generations on Nigerian immigrants; from first to up to third generation. Some of the younger respondents may have been born in the U.S,

however, it is anticipated that a large group of them will still retain some of the core values from their first-generation immigrant parents, as they do with childbirth expectations and practices. The project site will be a community-oriented African house of worship in Newark New Jersey, with mostly Nigerian members.

Gap analysis originated from the author's personal experience and being part of this community in their homes and churches and was reinforced by the evidence discussed in the literature review section of this project. The church was chosen as a site for implementation because of the well-documented relationship between African immigrants, religiosity, and health (Adekeye et al., 2017).

Purpose and Objectives

The basics of this DNP project is to provide education to Nigerian immigrant women on neuraxial labor analgesia. To accomplish this, it is essential to understand that strengthening community-based healthcare has become a valuable strategy to reducing health inequalities and improving the integration of migrants and refugees into local communities (Riza et al., 2020). The goal of this research is to determine if a language-directed educational video intervention on the use of epidural analgesia improves the willingness of immigrant Nigerian women living in the United States to accept it during labor. If it does improve the willingness, then this project can serve as a blueprint to subsequent health implementation strategies geared towards improving the health care experience of this population, both in maternal care and other sub-optimal health care areas.

A literature review of the best practices for effective community-based healthcare models and interventions for migrants and refugees detailed the benefits of close collaboration of the various stakeholders, the local communities, the migrant communities, and the partnership as key

elements in the successful implementation of any healthcare provision. Core elements of the identified interventions and models are "partnering with members from target communities, community mobilization to stimulate outreach, culturally and linguistically sensitive approach, availability of information in relevant languages, advocacy, establishing a sense of belonging, community and trust, as well as promoting empowerment and cultural competency" (Riza et al., 2020).

CHAPTER TWO

Search Methodology

A literature search was performed on Google Scholar database, for articles published in English language between 2014 and 2022. The key terms for the search included labor analgesia, immigrant Nigerian parturient, immigrant obstetric care in the United States, limitations to optimal labor analgesia in Nigerian immigrants to the United States, and best implementation strategies in migrant communities. Combinations of articles from each key term returned over 50,000 publications however, many were excluded because they did not meet inclusion criteria which included articles published not earlier than 2014, peer reviewed, specific to immigrants' experience in the United States, and published in the United States. 25 articles met the inclusion criteria and were used as the basis for this project.

Findings

Maternal Country of Birth and Epidural Use

Migration of individuals is never in isolation, rather is accompanied by migration of their associated culture, fashion, food, music, religious beliefs, and health practices. Population cohort research with over 600,000 births that was conducted in Norway looked to assess intrapartum epidural use during vaginal delivery among immigrant women giving birth in the country,

compared to Norwegian born women. Part of their findings indicated a reduced odds for intrapartum epidural among multiparous women of sub-Saharan African descent living in Norway (Laine & Räisänen, 2020). With almost 37,000 participants, Husarova et al. (2016) reported similar outcomes in Ireland, when they studied patterns in intrapartum analgesia in the migrant obstetric population.

Wilson et al. (2014) reviewed Norway's registry of 842,496 live-born singleton deliveries between 2000 and 2015. The study determined that native-born women and multiparous women from sub-Saharan Africa with spontaneous vaginal delivery were least likely to be provided epidural analgesia (Wilson et al., 2014). In the United Kingdom, Henderson et al. (2013) found that Black African parturient endures poorer experiences of maternity, with a significantly higher mortality and morbidity rates when compared to white women.

These studies did not take place in the U.S, however, the sheer number of their participants made them quite generalizable to other developed countries with advanced healthcare system, including the U.S. Wilson et al. (2020) states that the use of neuraxial labor analgesia in African American in the U.S is lower than for other ethnicities. However, Wilson (2020) also concluded that ethnicity plays only but a small role when it comes to acceptance and request for epidural labor analgesia. Wilson et al. (2020) describes the common error by many U.S. researchers who group African immigrants in the same category of "blacks" in almost all their ethnicity-related studies. The challenge is that "black" is a racial description of a group of people that share anthropometric measurement, including physiologic, physical, and genetic characteristics. In the context of this study, Nigerian immigrant women are better identified by their ethnicity, by belonging to a "group of people with a common cultural heritage that sets them apart from others in a variety of social relationships" (Sankar, 2003, p. 119).

Nigerian Parturient and Neuraxial Labor Analgesia

Studies on obstetric Nigerians in other countries identified maternity experience and beliefs to be grounded in culture, ethics, religion, acceptance of pain as part of labor, lack of knowledge of epidural analgesia availability, costs, discouragement from family members, fear of side effects, and lack of adequate information, to name a few (Olaleye et al., 2020). Anayo Onyekwelu et al. (2017) states that, "(27.3%) of respondents did not desire pain relief in labor, 36.6% believe that labor pain is natural, 26.8% believe in divine intervention, 22% feared side effects, 4.9% believed they could cope with pain, 7.3% feared it may affect the baby and 2.4% had no confidence in pain relieve methods" (p.118). Laine and Raisanen (2020) report that lack of knowledge of safety related to epidural analgesia, different expectations for pain relief during labor and delivery, desire for natural childbirth without medical pain relief, and language barriers were other factors that were identified to influence a woman's decision (p. 45).

For the very few studies that focused on understanding the healthcare experiences and needs of African immigrants in the U.S, similar themes emerged. Culture, religion, and spirituality were identified as key contributors that interlock in influencing these experiences (Omenka et al., 2020). Traditional beliefs, stigma in the community, linguistic discordance, lack of culturally competent providers, biased provider attitudes and lack of trust of the U.S. health system are other factors that were identified in the same scoping review by Omenka et al. (2020).

There are examples where spiritual healing and prayer were identified as treatment strategies and alternative methods of healing for Nigerians (Chaumba, 2011). Adekeye et al. (2017) identified barriers to healthcare among African immigrants in cancer screening. The study by Adekeye et al. (2017) was conducted during a "Thanksgiving Sunday" church service. This day traditionally records the highest attendance of all services. The church was also chosen

because of the well-documented relationship between African immigrants, religiosity, and health (Adekeye et al., 2017). Adeleke et al. (2017) supports the methodology for this current study.

Best Practices in Labor Analgesia

Labor pain is probably the most severe pain that most women will endure in their lifetime. It is so notoriously painful that opium and its derivatives have been used in childbirth for several thousand years. Whereas severe pain might not be life-threatening for a healthy woman in labor, it can stimulate the sympathetic nervous system and catecholamine release, leading to maternal hypertension, hyperventilation, hypocapnia, decreased ventilatory drive between contractions, alkalosis, and left shift of the maternal oxygen dissociative curve. These factors constrict uterine blood vessels, compromising oxygen supply and leading to uncoordinated uterine contractions, fetal hypoxemia, and acidosis (Lam et al., 2020, p. 413).

Also, incidents of postpartum depression may be increased in the absence of adequate labor analgesia, and the severity of pain during childbirth may be related to the development of post-traumatic stress syndrome (Aragão et al., 2019). Therefore, “good labor analgesia should aim not only to relieve the pain and suffering of the mother but also to decrease fetal acidosis and make delivery process safer for both the mother and baby” (Lam et al., 2020, p. 413).

Neuraxial analgesia that includes epidurals and combined spinal-epidurals provides excellent pain relief in labor and is “the gold standard against which other pain relief modalities are compared” (Nanji & Carvalho, 2020, p. 101). Epidural analgesia requires threading a very fine catheter into the epidural space to allow for a continuous infusion or repeat boluses of pain medicine, which has made it possible for women to walk around pain-free and still retain a mild sensation of uterine contraction and urgency to bear down, thereby facilitating pushing the baby out in the second stage of labor (Lam et al., 2020, pp. 414–415).

Multiple randomized controlled trials that compared epidural analgesia with systemic opioids, nitrous oxide and other means of labor analgesia demonstrated lower maternal pain scores and higher maternal satisfaction with neuraxial analgesia. Togioka et al. (2019) stated that "neuraxial analgesia techniques are the most flexible, effective, and least depressing to the central nervous system, and pain management should be provided whenever medically indicated" (p. 840). Evidence suggests that neuraxial analgesia does not increases the risk of cesarean section but is conflicting when it comes to prolonging the duration of labor or increasing the rate of instrumental vaginal delivery (Cambic & Wong, 2010).

Obstetric Goals

To help develop intrapartum guideline recommendations and scope of outcomes to assess optimal maternity care, the World Health Organization (WHO) commissioned a systematic review by Downe et al. (2018), which looked to explore what matters to healthy women in relation to labor and birth. With high confidence, their review suggests that "most women around the world hope for a labor and birth experience that enables them to use their inherent physical and psychological capacities to labor and give birth to a healthy baby in a clinically, culturally, and psychologically safe environment with continuity of practical and emotional support from a birth companion, and with kind, sensitive clinical staff, who provides reassurance and technically competency" (p. 6).

Thompson et al. (2019) explored women's views and experiences of pharmacological and non-pharmacological pain relief methods used during labor and childbirth and found that women felt conflicted regarding their labor analgesia choice. One key point from the study, however, is that out of all the reasons that women choose medicinal support in labor, they were still more likely to recount negative experiences of health provider support. And, whereas women that

chose non-medical approach get plenty provider support, most of them thought those approaches were less effective than anticipated (Thomson et al., 2019).

The lack of provider support in labor analgesia, especially with African parturient was identified by McCauley et al. (2018) in a study conducted in Tanzania. The researchers discovered that providers fail to routinely offer pharmacological pain relief during labor and after childbirth despite resource availability - "we know it's labor pain, so we don't do anything" (McCauley et al., 2018, p. 5).

Most women around the world place high value on their capacity to give birth physiologically (without technical or pharmacological intervention). A position that's influenced by familial experiences and cultural norms however, they also acknowledge that birth can be unpredictable and potentially frightening event and will be open to "go with the flow" and receive analgesic intervention, as long as they are able to retain their sense of personal achievement and control by being involved in the decision making (Downe et al., 2018).

Shared Decision Making

When Harkins et al. (2010) tried to determine the factors that has been associated with whether a woman received epidural in labor, there was a strong association between a partner's preference and epidural use, which brings up the importance of incorporating Shared Decision-Making (SDM) model in obstetric labor pain management. SDM is the "integration of best research evidence with clinical expertise and patient values" in a clinical setting (Bae, 2017, p. 1). It involves a trusting two-way communication between provider, patient, and patient's support system in making critical decisions about care and treatments.

Cheng et al. (2020) aimed to evaluate whether earlier prenatal SDM interventions increase parturient's comprehension and satisfaction of epidural labor analgesia, compared with

the conventional practice, which was to explain labor analgesia options to patients after labor pain has already begun. The study informed that the SDM group reported significantly higher satisfaction with the information received, as well as the quality of their pain relief during labor. The SDM module is critical to this practice change-research because most health decisions in a typical immigrant Nigerian household are influenced by not just the patient, but their spouses, siblings, parents, grandparents and sometimes, aunts and uncles.

Best Implementation Strategies

Lally et al. (2014) completed a qualitative study to determine how women can be better supported in labor with regards to pain management. They asked questions like "have you thought about how you are going to manage your pain in labor yet?," and "have you made any decisions about which methods of pain management you are going to use?" (p. 2). Three themes emerged from the study, including the degree of uncertainty about the level of pain women thought they would experience in labor, the effects of different methods of pain relief, and it was not enough to merely offer an evidence-based information tools in the hope that informed choice and decision making will automatically follow. The authors determined that it is paramount that these tools be incorporated into the things that are important to the women such as beliefs, culture, values, and preferences, including desires for non-pharmacological birth experience (Lally et al., 2014).

When Caballero et al. (2014) assessed whether preferred spoken language mediates the association between ethnicity and neuraxial labor analgesia utilization, it was determined that indeed, preferred spoken language does mediate the relationship between ethnicity and neuraxial labor analgesia utilization, making it an important factor in efforts to mitigate healthcare

disparities and epidural labor analgesia underutilization among patients of different ethnic groups, including immigrant Nigerian parturient in the U.S.

The study by Caballero et al. (2014) was implemented in a blinded, randomized controlled trial with hypothesis that "linguistically concordance educational program that described the epidural procedure, clarified the benefits and risks, and explained alternative analgesic techniques may improve epidural utilization in two independent cohorts of Hispanic and non-Hispanic women" (p. 841) Among all the outcomes from the study, the most important was that Hispanic patients were more likely to choose epidural labor analgesia after receiving intervention with linguistically concordance undertone (Togioka et al., 2019). Language will be a critical part of this study, and a cornerstone to the development of tools and instruments.

Study Limitations

One limitation from the evidence synthesis is that seven articles that were part of the review were conducted outside of the U.S, considering that this health implementation project is tailored to the Nigerian Immigrant community living in the U.S. The seven articles are Anayo-Onyekwelu (2017), Henderson et al. (2013), Husarova et al. (2016), Laine and Raisanen (2020), McCauley et al. (2018), Olaleye et al. (2020), and Wilson et al. (2014); and were conducted in Nigeria, United Kingdom, Ireland, Norway, Tanzania, Nigeria, and Norway, respectively.

CHAPTER THREE

Theoretical Framework

A theory is defined as an abstract set of integrated concepts with proposed relationship statements between those concepts (Keele, 2010, p. 19). High-quality studies attain high level conceptual integration by employing methods that are appropriate for the research questions, are

consistent with existing evidence, and exhibit plausible conceptual rationale for hypothesis to be tested (Polit & Beck, 2020, p. 112).

Theoretical framework comprises the theories expressed by experts in an interested field of research and drawn upon to provide "a theoretical coat hanger for data analysis and interpretation of results" (Kivunja, 2018, p. 46). A theoretical framework is a structure that summarize concepts and theories that develop from previously tested knowledge and are synthesized to develop a theoretical background, providing basis for data analysis, and meaning interpretation (Kivunja, 2018, p. 46). The theoretical framework introduces and describes the theory which explains why the research problem under study exists.

Conceptual Definitions of Theory

The Health Belief Model (HBM) has been one of the most widely utilized theoretical frameworks in health behaviors research, both in explaining behavioral change and as guiding framework for interventions (Glanz et al., 2015, p. 75). HBM suggests that health-seeking behavior is influenced by an individual's discernment of a threat posed by a health problem, as well as the value associated with actions aimed at reducing that threat (Polit & Beck, 2020, p. 119).

Primary components of HBM are perceived susceptibility, perceived severity, perceived benefits, cues to action, self-efficacy, and barriers to engagement in a behavior. These components predict whether and why people will take action to prevent, detect, or control illness conditions (Glanz et al., 2015, p. 76). The HBM theoretical framework focuses on patient compliance and preventative health practices through the application of perceived susceptibility, perceived severity, perceived benefits, perceived cost, as well as an individual's motivation. This suggests that health-seeking behaviors are influenced by an individual's perception of a threat

posed by a particular health problem, and the value associated with the actions designed to reduce that threat. Even when one identifies personal susceptibility, actions will only follow if the individual understands the severity of the threat to be high enough to have serious implications (Polit & Beck, 2020).

Relationship of Theory to Scholarly Project

According to Abraham et al. (2015), belief is an enduring, yet modifiable individual characteristic that provides a crucial link between socialization and behavior. Therefore, if persuasive techniques can be used to elicit behavior-related beliefs that result in behavioral changes, it would provide a theoretical and practical basis for evidence-based health education (Abraham & Sheeran, 2015, p. 30).

Loke et al. (2015) used the HBM theoretical framework to study the factors that influence women's decision on their mode of child delivery. Loke et al. (2015) determined that women's health belief and cues to action, does affect women's decision on their mode of delivery. The results of Loke et al. (2015) study indicates that there is value in designing educational programs for pregnant women, in order to educate the women on the benefits, risks, and severity of different types of delivery.

Gochman (1997) defined health behavior as "those personal attributes such as beliefs, expectations, motives, perceptions, and other cognitive elements" (p. 3). Gochman's (1997) definition suggests the use of the HBM theoretical framework to be apposite, in the implementation and execution of this DNP project. This is because, the adoption of neuraxial labor analgesia by immigrant Nigerian parturient in the U.S. will be determined by their understanding of its risk and benefits for themselves, their newborns, and their overall birthing experience.

The HBM concepts of perceived susceptibility, severity, benefits, cost, and motivation are reflected in this DNP project's implementation plan, which consists of an original, language-specific educational video that addressed the common misconceptions about epidural labor analgesia and provided evidence-based facts, about the risk and benefits, as well as the procedural expectations of epidural analgesia.

CHAPTER FOUR

IRB Process

The 1975 National Research Act and the 1991 Common Rule adoption determined that Institutional Review Boards (IRBs) play a key role in the institutions' responsibilities to protect the rights and welfare of study participants, while ensuring compliance with federal regulations that govern research involving human subjects (Shoenbill et al., 2017). In the U.S, the duty of the IRB is to ensure that a proposed study meets federal requirements for ethical research, minimize participants' risks exposures, and ensure that their rights, welfare, equitability, safety, privacy, confidentiality, and informed consent are protected (Polit & Beck, 2020, p. 145).

With four faculty and one non-faculty membership, Cedar Crest College (CCC) IRB was the only such institution that needed to review and approve this DNP project. Because the federal regulations on IRB processes lack specifications, researchers have witnessed significant variabilities in the procedures and decisions made by IRBs, which sometimes has led to delays, obstructions, inefficiencies, frustrations, and confusion (Shoenbill et al., 2017, p. 177). The IRB proposal for this DNP project to CCC IRB was, however, seamless, and unhindered.

It was the responsibility of the team leader of this project to complete and submit a proposal to the CCC IRB for review and approval. The required forms for the proposal application were readily available on the CCC website and were to be downloaded and submitted

with the DNP project application. It was anticipated that participants for this DNP project will be at no physical, psychological, or emotional risk at any time during implementation. Nor was it anticipated that participation in the project would place the participants at any risk of criminal or civil liability or damage the participants' financial standing or employability. With these considerations, the IRB proposal was applied for an ‘expedited review’ and was processed accordingly. An approval notice was received seven days after the application, with very few semantic adjustment recommendations from the committee.

Implementation Plan

The creation of awareness and interest, building knowledge and commitment, promoting action and adoption, and pursuing integration and sustained use are four implementation strategies for Evidence Based Practice (EBP) that has proven to help EBP team leaders accomplish their goals of practice change (Cullen et al., 2017, p. 121). In addition to having substantial evidence to support a proposed practice change, planning, organization, stakeholder buy-in and recruitment, as well as being realistic with time, money and resources are equally essential for a successful EBP implementation project (Keele, 2010, p. 91).

The initial timeline that was set to implement this DNP project was a Sunday afternoon between the months of August and September 2022. The actual implementation was conducted on the 18th of September 2022 at a Nigerian Catholic church in Newark, New Jersey, and the participants were immigrant Nigerian women of childbearing age living in the United States, and who attended church service on the day of implementation. This population was a mixture of multiple generations on Nigerian immigrants, from first to up to third generation. Whereas many of the younger respondents were born in the United States, they still retained the core values from the first-generation immigrant parents.

This DNP project was conducted with a survey design that involved 23 participants who attended church service on the day of implementation. Subjects who volunteered signed an informed consent prior to participation. The DNP project primary leader joined the participants at their bi-weekly after-service gathering at the church's cafeteria and executed the proposed implementation plan. The DNP project leader was well informed that prescriptive and rigid timing strategy in EBP implementation is discouraged, and that successfully implemented projects of similar had been as fluid as they were complex, highly interactive, and impacted by contextual variations (Cullen et al., 2017, p. 124). To this effect, the DNP project leader was very adaptable in adjusting the implementation process to fit each participant's comfort level, if all steps and sequence of the implementation plan were adhered to.

Data Collection Tools

According to Cullen et al. (2017), taking the time to collect baseline data before any project implementation is vital, because it allows the project leader to identify practice changes that have worked as proposed. This process helps to identify how well the implementation strategies have worked in the past, as well as demonstrate that the project leader has had an impact through improved outcomes. In other words, evidence of EBP contrasts baseline with post implementation data and includes trended process and outcomes measure for integration and sustainability (Cullen et al., 2017, p. 296).

For this DNP project, data was collected using a self-administered questionnaire that included a pre and a post-education section. The questionnaire consisted of 4 sections, which included information on the respondents' demographic variables, respondents pre- and post-education score on "the likelihood of neuraxial labor analgesia utilization", and the resulting effect of the DNP project implementation strategy towards the respondents post scores (positive,

negative, neither). The main instrument for the implementation was a 10-minute QR-code-accessed original video with "pidgin English" undertone that outlined the key benefits of neuraxial labor analgesia and the common misconceptions about it.

After obtaining informed consent, the questionnaire was presented to the participants. The participants were asked to complete the pre implementation section of the questionnaire and rate their likelihood of utilizing neuraxial labor analgesia on the scale of 0 to 5, with 0 being least likely and 5 being most likely. The post implementation section was completed after the participants had watched the QR code-accessed video on neuraxial labor analgesia. This original video was created by the DNP project implementation person and did not require any permission prior to use.

Content Resources and Budget Justification

According to Keele (2010), feasible issues in implementing evidence-based nursing practice changes include costs, time, and available resources. Evidence-based-practice is a complex, multifactorial process that requires the art and science of nursing. Therefore, it is important to ensure that adequate resources, both human and material, exist to formulate the team, organize, and synthesize the relevant literature. Equally pertinent are resources to develop a plan, collect pre-implementation data, implement the practice change, collect, and evaluate post-implementation data, before moving forward with a larger roll-out and dissemination of the initiative outcomes (Cullen et al., 2017, p. 105).

For this DNP project, all implementation tools, and materials, including production of an original educational video, an online QR-code access subscription, a YouTube channel to upload the video, 30 paper copies of the questionnaires, and transport to-and-fro the implementation site were developed and provided by the DNP project team leader, with a cost of

$200. There was no cost incurred by the implementation site because the location for implementation was a community setting that was a church.

CHAPTER FIVE

Implementation Procedures and Processes

In research, dependability refers to the stability or reliability of data over time and conditions (Polit & Beck, 2020, p. 569). This project identified a sub-optimal obstetric pain management in a Nigerian immigrant community in the U.S, and a literature review was conducted to support the existence of the problem. Subsequently, GAP analysis was completed, best practices in obstetric pain management was identified, a PICO question was developed and presented to CCC nursing faculty. IRB approval was obtained, and the DNP project was implemented.

Implementation procedures and processes of this DNP project highlighted the individual steps of the implementation, including how the project was introduced to both the church staff and the participants, as well as how the participants were chosen. This chapter also addressed the specific steps that it took to ensure a successful outing, incorporating tools of implementation, data extraction, data storage and exercise completion.

Identify a Healthcare Need

This DNP project stated that Nigerian women have remained skeptical of the epidural and neuraxial techniques of obstetric pain management, predating the relocation of those that had migrated to the U.S. In addition to the tendency of this population to not request epidural analgesia during labor, many providers were not likely to offer epidural anesthesia to them nor provide education regarding labor anesthesia, routinely (Olaleye et al., 2020).

The author's mother gave birth to 9 children, while his two sisters had 7 and 3 children, respectively, all with no form of analgesic management.

Literature Review to Support the Healthcare Need.

To support the existence of this healthcare need, a literature search was conducted on Google Scholar database, for articles published in English language between 2014 and 2022. The key terms for the search were labor analgesia, immigrant Nigerian parturient, immigrant obstetric care in the U.S, limitations to optimal labor analgesia in Nigerian immigrants to the U.S, and best implementation strategies in migrant communities**.**

The literature review identified maternity experience and beliefs to be grounded in culture, ethics, religion, acceptance of pain as part of labor, lack of knowledge of epidural analgesia availability, costs, discouragement from family members, fear of side effects, and lack of adequate information (Olaleye et al., 2020, p. 7). Traditional beliefs, stigma in the community, linguistic discordance, lack of culturally competent providers, biased provider attitudes and lack of trust of the U.S. health system are other factors that were identified in a scoping review by Omenka et al. (2020, p.10)

Gap Analysis

Gap analysis was borne by the author's personal experience as a member Nigerian immigrant community in the U.S, as well as a healthcare provider-in-training in obstetric pain management. Gap analysis was also reinforced by evidence from the literature review.

Best Practices in Obstetric Pain Management

A good labor analgesia should aspire not only to mitigate the pain and suffering of a laboring mother but also to control fetal acidosis and make delivery process safer (Lam et al., 2020). To this effect, Togioka et al. (2019) stated that neuraxial analgesia techniques are the

most effective in obstetric pain management, as well as the least depressing to the central nervous system (p. 840). According to Caballero et al. (2014), preferred spoken language mediates the relationship between ethnicity and neuraxial labor analgesia utilization, making it a principal factor in efforts to lessen healthcare disparities and underutilization of epidural labor analgesia among patients of different ethnic minority groups (p.164).

PICO Question and PICO Pitch

The PICO question for this project is: In immigrant Nigerian women of childbearing age living in the United States, does educational intervention on the use of epidural analgesia during labor increase the willingness of the women to accept epidural analgesia during labor? This PICO question was presented to the nursing faculty at CCC to increase buy-in and explore recommendations.

How this Project was Introduced to Implementation Site Staff

Implementation of this DNP project was conducted in a Nigerian community house of worship where the head of congregation is the parish priest. Two months prior to implementation, the investigator was accompanied by his mentor and met with the parish priest to discuss the investigator's intention to conduct this experiment at the church. One of the nuns that oversee scheduling at the church was also present.

At this meeting, information was shared including the purpose of the project, the background, gap analysis, literature review, implications of the project to the community, and then, the project as a precursor to obtaining a doctorate degree in nursing practice. When the meeting concluded, the parish priest and the nun allowed implementation of the project on the 18th of September 2022.

How this Project was Introduced to Participants

The investigator joined the participants at their bi-weekly after-service gathering at the church's cafeteria and executed the proposed implementation plan. The essence of the project was explained to the participants with the assurance that they were free to withdraw at any time without penalty. Participants who volunteered signed an informed consent prior to participation.

How the Participants Were Chosen

Participants in this project were immigrant Nigerian women of childbearing age living in the U.S, who attended church service on the day of implementation, in Newark New Jersey, and had agree to voluntarily participate in the research. Other inclusion criteria for the participants were being of a Nigerian heritage and being within the childbearing age of 18 and 50 years old.

The participants were mixtures of multiple generations Nigerian immigrants, from first to up to third generation. Whereas some of the younger respondents were born in the U.S, they still retained the core values from their first-generation immigrant parents.

Day of Implementation

When church service concluded, potential participants gathered at the church's cafeteria for their bi-weekly after-service meeting. It was at this time that the investigator was given the opportunity to introduce the project and began the process of participant recruitment and project implementation. Those who gave verbal consent were given the rest of the project materials to complete. The participants were asked to complete the pre implementation section of the questionnaire and rate their likelihood of utilizing neuraxial labor analgesia on the scale of 0 to 5, with 0 being least likely and 5 being most likely. The post implementation section was completed after the participants had watched the QR code-accessed video on neuraxial labor analgesia.

Implementation tools

The main tool for the implementation was a 10-minute QR-code-accessed original video with "pidgin English" undertone that outlined the key benefits of neuraxial labor analgesia and the common misconceptions about it. Data was collected using a self-administered questionnaire that included a pre and a post-education section. The questionnaire consisted of 4 sections, which included information on the respondents' demographic variables, respondents pre- and post-education score on "the likelihood of neuraxial labor analgesia utilization", and the resulting effect of the DNP project implementation strategy towards the respondents post scores (positive, negative, neither).

Data extraction and storage

Descriptive and inferential statistics were used to examine respondent's pre and post survey scores regarding the likelihood of epidural labor analgesia utilization. Data has remained with the investigator since implementation and is stored in a safety box where only the investigator can access it.

Completion of exercise

At the completion of the implementation process, a total number of 23 Nigerian women of childbearing age, who attended church service on that day completed the exercise. They viewed the QR-code-accessed video with "pidgin English" undertone that outlined the key benefits and the common misconceptions of epidural labor analgesia and completed a pre and post survey on the participants' willingness to accept epidural analgesia during labor.

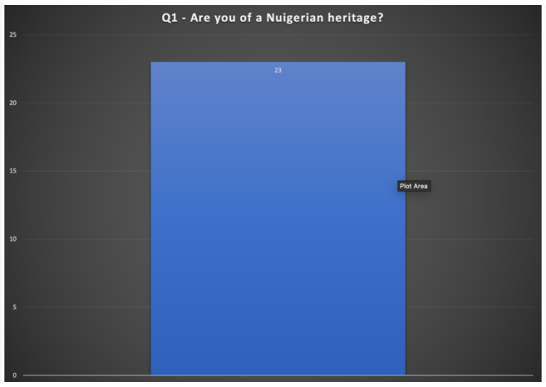
CHAPTER SIX

Evaluation

This DNP project focused on immigrant Nigerian women of childbearing age living in the U.S. The participants were volunteers and members of a particular Nigerian Catholic church in Newark NJ, and who attended church service on the day of implementation.

Figure 1

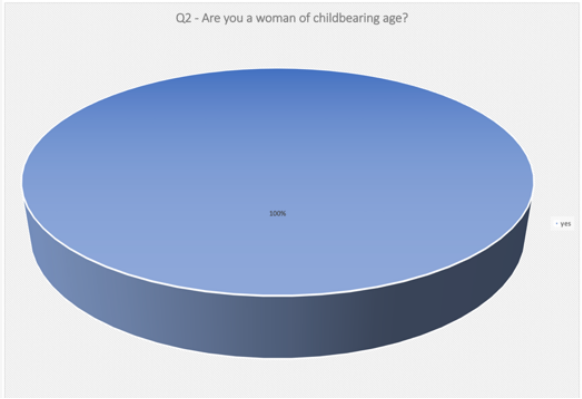
Demographics



This figure is a graphic interpretation of the first demographic question from the self-administered questionnaire. It shows that 23 out of the 23 participants in this DNP project identified as being of Nigerian heritage.

Figure 2

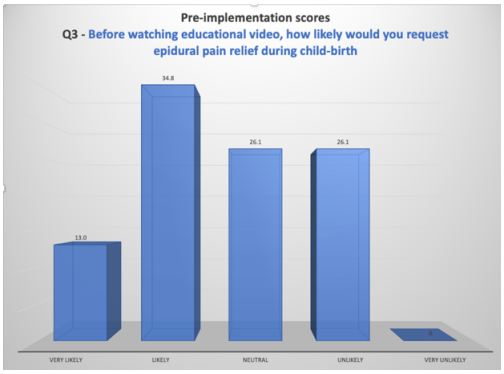
Demographics



This figure is a graphic depiction of the second demographic question from the self-administered questionnaire. It shows that 100% of the participants in this project identified as immigrant Nigerian women between the childbearing age of 18 and 50 years old, living in the United States.

Figure 3

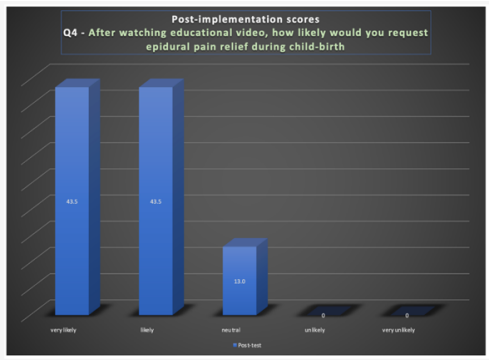
Pre-implementation responses



Section two of the self-administered questionnaire asked the 23 participants to rate their likelihood of requesting epidural pain relief during childbirth. Figure 3. is a graphic representation of their responses and shows that 52 % of the respondents were either unsure or unlikely to request epidural pain relief. Only about 34 and 13 % of the respondents were likely and very likely to request epidural pain relief during childbirth, respectively.

Figure 4

Post-implementation responses

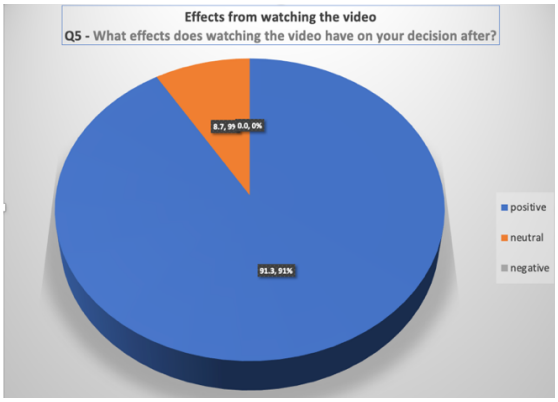


The participants were then asked to watch a 10-minute QR-code-accessed original video with “pidgin English” undertone that outlined the key benefits of neuraxial labor analgesia and the common misconceptions about it. After watching the video, the participants were asked to rate their likelihood of requesting epidural pain relief during childbirth.

Figure 4 shows that the percentage of the respondents who were ‘neutral’ prior to watching the video dropped from 26.1 to 13 %. The percentage of the respondents who rated their scores to be ‘likely’ prior to watching the video, increased from 34.8 to 43.5 %, and significantly, the percentage of those that rated their scores to be ‘very likely’ prior to watching the video, improved from 13 to 43.5 %. Note that no participant rated their response to be ‘unlikely’ or ‘very unlikely’ in the post implementation section.

Figure 5

Effects from watching the video.



Section 4 of the self-administered questionnaire looked to determine the impact of the DNP project’s implementation strategy on the respondents’ post implementation scores. The respondents were asked to choose between positive, neutral, and negative to depict their association of watching the video and their post implementation responses. Figure 5 shows that whereas the video made no difference for 8.7 % of the respondents, 91.3 % of the respondents made a positive correlation between the video and their post implementation scores.

Outcomes

BrightStat.com statistical analysis website was utilized to determine the inferential statistical results from this DNP project. A null hypothesis was established – there is no significant difference between the pre-implementation and post-implementation scores of the respondents regarding their likelihood of epidural labor analgesia utilization.

Figure 6

2 dependent samples t-test

Dependent t-Test

t-Test Descriptives

	N	Mean	Std. Dev.	SE of Mean
pre_test_scores	23	3.34783	1.0273	0.21421
post_test_scores	23	4.30435	0.7029	0.14657

t-Test Paired Correlations

	N	Correlation	t	df	p (2-tailed) °
pre_test_scores - post_test_scores	23	0.66507	4.08113	21	0.001

° adjust p by factor 0.5 for directional hypothesis

Dependent t-Test

	Mean Difference	Std. Dev. Difference	SE of Mean Difference	t	df	p (2-tailed) °
pre_test_scores - post_test_scores	-0.95652	0.76742	0.16002	-5.97759	22	0.000

° adjust p by factor 0.5 for directional hypothesis

From a dataset of 23 sample size, the mean-average of pre-test scores was compared to the mean average of post-test scores using Any Difference Paired T-test with Assuming Equal Variance, and 95% confidence. This test resulted in observing a sample mean for pre-test scores of 3.34783 and a sample mean for post-test scores of 4.30435. The observed difference of 0.9 was tested for whether true population difference was different from 0. From this test, the resulting p-value was 0.001, and indicates that because the p-value <=0.05, the null hypothesis was rejected.

It was concluded that there was statistical evidence to support the hypothesis that the mean averages from the two variables were different from one another, suggesting that the DNP project's implementations activities changed the perception of the respondents regarding epidural labor

analgesia. Therefore, a language-directed educational video on the use of epidural analgesia improved the willingness of immigrants' Nigerian women living in the U.S. to accept the intervention.

Discussion

International migration poses an ongoing challenge to the provision of obstetric care in the U.S. and there's evidence to suggest suboptimal maternal analgesia for immigrant Nigerian parturient during labor. This DNP project identified some of the causes of this suboptimal care, including the acceptance of pain as part of labor, discouragement from family members, fear of side effects, believe in divine intervention, desire for "natural" birth, lack of adequate information, and linguistic discordance.

This DNP project presented current best practices in labor analgesia, with epidurals and combined spinal-epidurals being the gold standard against which other pain relief modalities are compared (Nanji & Carvalho, 2020, p. 101). Following the antecedents of Caballero et. al. (2014) as it relates to preferred spoken language and neuraxial labor analgesia utilization, this DNP project reiterated that a language-directed educational video intervention on the use of epidural analgesia improved the willingness of immigrant Nigerian women living in the U.S. to accept it during labor.

A contributory factor towards the success of this DNP project was the HBM theoretical framework that guided its implementation. This framework influenced how the project was introduced to both the staff at the site of implementation and the respondents. Concepts of the HBM framework allowed the respondents to improve their compliance as a result of perceived susceptibility, perceived severity, perceived benefits, perceived cost, and personal motivation.

As it relates to the need that was uncovered during needs assessment, results from this project showed an improvement from pre to post implementations scores in epidural labor analgesia utilization. More than 90% of the respondents attributed this improvement to the effectiveness of the implementation strategies. Language-directed educational video on the use of epidural analgesia improved the willingness of immigrant Nigerian women living in the U.S. to accept it. If disseminated appropriately, this effort will improve and enhance the labor analgesic experience of this population in all corners of the U.S.

CHAPTER SEVEN

Implications for Practice

One-in-ten Black people in the U.S. are immigrants, and between the years of 2000 and 2019, black African immigrants' population grew 246%, from about 600,000 to 2 million (Tamir, 2022). While that number continues to grow exponentially, healthcare providers and policy makers still have little information to guide their decision-making concerning this population. This is because, very few studies have been dedicated to assessing the healthcare experiences of African immigrants, including their barriers to care and specific health interventions (Omenka et al., 2020, p. 10). This DNP project provides in-depth understanding of lived experiences of Nigerian immigrant parturient, regarding labor pain management.

A prospective study in Israel determined that medical staff interpreted women of Bedouin ethnicity to have experienced less labor pain in comparison with women of Jewish ethnicity, despite both groups recording similar self-reported pain scores (Husarova et al., 2016, p. 203). Findings from Husarova et al. (2016) show that interpretations of pain severity are made more difficult by expression variability among diverse cultures, and that caregivers with a similar

cultural background to parturient might be better equipped to interpret the severity of the parturient's pain.

It is imperative, therefore, that healthcare worker diversity programs and cultural competence care initiatives continue to be pursued in U.S. healthcare system. There should be increased effort for engagement with migrant community through partnership, evidence-based guidelines, culturally and linguistically trained interpreters, outreach activities and advocacy, as well as staff training in cultural competency and health promotion education (Riza et al., 2020, p. 8, 9). This DNP project provides evidence that language mediates the association between ethnicity and epidural labor analgesia utilization. This finding can support healthcare providers in appreciating this influence, and how it could improve patient-clinician interactions and clinical care.

In addition to the identified gaps, conclusions from this DNP project provides clarity to some of the critical issues with Nigerian immigrant women's healthcare interventions, while providing strategies to increase knowledge about epidural analgesia. These conclusions also provide cues to subsequent lines of inquiry that are necessary for improving understanding of the unique healthcare needs of this population.

Strengths of the Project

This DNP project could be the first project that focused on the promotion of best practices in obstetric pain management in Nigerian immigrant women living in the U.S. By targeting this sub-group of African immigrants, this DNP project initiates conversation on the health practices of this population, as it relates to obstetric care and pain management, which research has shown to be sub-optimal. It is critical that this population realizes the barriers and

limitations that exist in their obstetric care and be educated on the best practices in labor analgesia.

Caballero et al. (2014) noted that language barrier is a contributing factor in disparities among ethnic groups for neuraxial labor analgesia utilization (p.164). Therefore, the introduction of an original video with 'pidgin English' undertone to target this population was critical to the successful implementation of this DNP project. Reasons for improvements in participants' post scores went beyond the message in the video and included the participants' familiarity and preference with the spoken language, as well as the ethnicity and personnel representation of the presenter.

Community health is a health status of a defined group of people and the actions and conditions to promote, protect, and preserve their health (Riza et al., 2020, p. 2). As opposed to online modules or remote implementation channels, this DNP project was hands-on, and community based. The core elements of this approach included partnering with members from the target community, community mobilization to stimulate outreach, culturally and linguistically sensitive approaches, availability of information in relevant languages, responsiveness, coordination, integration, advocacy, as well as sense of belonging and trust (Riza et al., 2020, p. 7).

Limitations of the Project

One of the limitations of this DNP project is the restriction of evidence synthesis to studies that were peer reviewed and published in English language. It is possible that relevant objective data on this population may have been published in grey literature and in other languages. Shared decision making is part of the best practices that was highlighted in this DNP

paper, however, the implementation process failed to capture contributions from participant's spouses and other family members.

Because the implementation process was not blinded, it is possible that post scores of the participants were influenced by the desire to please the presenter. Besides the small sample size, implementing the project in one day and at a single location could limit its generalizability. Finally, the collaboration with a church may have led to the exclusion of other Nigerian immigrant women, who may identify with other diverse religious or cultural values.

Lack of previous research on the topic, development of a new measurement tool, limited access to data because of the tool, and time constraint are other limitations that should be considered.

Linkage to DNP Essentials

This DNP project incorporates critical elements from all seven DNP essentials. Evidence synthesis on the best practices in labor analgesia and best implementation strategies, and executed in a health belief nursing framework, captured the first DNP essential of scientific underpinnings for practice. The DNP essential of organizational and systems leadership for quality improvement and system thinking was reflected in the efforts of this DNP project, to incorporate SDM and community health strategies from social sciences. In addition, being the primary investigator of this project, among many other stakeholders, satisfies the same DNP essential.

The completion of this DNP project and the readiness to disseminate findings to multiple nursing organizations, including Eastern Nursing Research Society (ENRS) and Pennsylvania Association of Nurse Anesthetist (PANA) spring symposium 2023, underscores the link to DNP essential of clinical scholarship and analytical methods for evidence-based practice. Also,

creating a QR-code-accessed original video as part of the project incorporates patient care technology for improvement and transformation of health care.

The variety of stakeholders that engaged in this DNP project, including nursing faculty, community organization and religious leaders satisfy the DNP essential of interprofessional collaboration for improving patient and population health outcomes. This DNP project represents a realistic advocacy to improve maternal labor experience for Nigerian immigrant women living in the U.S. The project is the first of its kind, and attempts to develop, implement, and evaluate interventions to address health promotion in this population.

CHAPTER EIGHT

Summary and Conclusions

Nigerian immigrants to the United States make up five percent of the entire U.S. population. Obstetric Nigerian immigrants to the United States has been chronically underrepresented when it comes to optimal labor analgesia. This DNP project implemented an educational initiative towards the improvement of epidural labor analgesia utilization in ethnic minority groups. The strategy incorporated a 10-minute QR-code-accessed original video with "pidgin English" undertone that outlined the key benefits of neuraxial labor analgesia and the common misconceptions about it.

Results from this DNP project show an improved perception from the respondents regarding epidural labor analgesia. This suggests that a language-directed educational video on the use of epidural analgesia improved the willingness of immigrants' Nigerian women living in the U.S. to accept the intervention. Many of the respondents also made a positive correlation between the video and their improved perception.

Similar to the study by Caballero et. al. (2014) regarding preferred spoken language and neuraxial labor analgesia utilization, this DNP project reiterated that a language-directed educational video intervention, on the use of epidural analgesia improved the willingness of identified minority groups to accept the intervention during labor. If disseminated appropriately, this effort will improve and enhance the labor analgesic experience of this population. It will also give precedents for other minority groups who may be experiencing similar limitations, in all corners of the U.S.

Dissemination Plans

An abstract and poster on this DNP project has been accepted for presentation, at the 2023 Eastern Nursing Research Society (ENRS) regional conference in Philadelphia. Another presentation will be conducted at the Cedar Crest College campus on the 20th of April 2023. Moreso, the QR-code for the original video will remain active and printed on the final poster for this project. This poster will be displayed on CCC, as well as posted online. This will make it possible for anyone to scan the code and watch the video at any time. Flyers containing the same QR-code will also be printed and make readily available at different Nigerian gatherings, whenever possible.

Implication for Future Research

Steps to improve the quality of similar future projects should include expansion of sample size, to increase the power and significance of data. There should be efforts to include spouses of respondents in future project, considering that decisions surrounding childbirth in this community are borne not only by the women, but also by their husbands. Future studies should remove restriction on evidence synthesis to studies that were only peer reviewed and published in English language, since relevant objective and subjective data could be published in grey literature and in

other languages as well. Future implementation strategies should extend data collection beyond one day and one location, to improve generalizability. To capture the diverse religious and cultural essence in this population, collaboration with community leaders should accommodate other religious houses beside the church.

References

Abraham, C., & Sheeran, P. (2015). The health belief model. In *Predicting health behaviour: Research and practice with social cognition models* (pp. 2, 30–35).

Adekeye, O. A., Adesuyi, B. F., & Takon, J. G. (2017). Barriers to healthcare among African immigrants in Georgia, USA. *Journal of Immigrant and Minority Health*, *20*(1), 188–193. https://doi.org/10.1007/s10903-017-0549-9

Agency for Healthcare Research and Quality. (2016). *Gap analysis*. Ahrq.gov. https://www.ahrq.gov/sites/default/files/wysiwyg/professionals/systems/hospital/qitoolkit/combined/d5_combo_gapanalysis.pdf

Anayo Onyekwulu, F. (2017). Awareness and perception of epidural labor analgesia amongst parturient in South Eastern Nigeria. *Clinical Medicine Research*, *6*(3), 116. https://doi.org/10.11648/j.cmr.20170603.20

Aragão, F., Aragão, P., Martins, C., Leal, K., & Tobias, A. (2019). Neuraxial labor analgesia: A literature review. *Brazilian Journal of Anesthesiology (English Edition)*, *69*(3), 291–298. https://doi.org/10.1016/j.bjane.2018.12.014

Bae, J.-M. (2017). Shared decision making: Relevant concepts and facilitating strategies. *Epidemiology and Health*, *39*, e2017048. https://doi.org/10.4178/epih.e2017048

Caballero, J., Butwick, A., Carvalho, B., & Riley, E. (2014). Preferred spoken language mediates differences in neuraxial labor analgesia utilization among racial and ethnic groups. *International Journal of Obstetric Anesthesia*, *23*(2), 161–167. https://doi.org/10.1016/j.ijoa.2013.09.001

Cambic, C., & Wong, C. (2010). Labour analgesia and obstetric outcomes. *British Journal of Anaesthesia*, *105*, i50–i60. https://doi.org/10.1093/bja/aeq311

Chaumba, J. (2011). Health status, use of health care resources, and treatment strategies of Ethiopian and Nigerian immigrants in the United States. *Social Work in Health Care*, *50*(6), 466–481. https://doi.org/10.1080/00981389.2011.581999

Cheng, W.-J., Hung, K.-C., Ho, C.-H., Yu, C.-H., Chen, Y.-C., Wu, M.-P., Chu, C.-C., & Chang, Y.-J. (2020). Satisfaction in parturients receiving epidural analgesia after prenatal shared decision-making intervention: A prospective, before-and-after cohort study. *BMC Pregnancy and Childbirth*, *20*(1). https://doi.org/10.1186/s12884-020-03085-6

Cullen, L., Hanrahan, K., Farrington, M., Deberg, J., Kleiber, C., & Tucker, S. (2017). *Evidence-based practice in action: Comprehensive strategies, tools, and tips from the university of Iowa hospitals and clinics* (1st ed.). Sigma Theta Tau International.

Downe, S., Finlayson, K., Oladapo, O., Bonet, M., & Gülmezoglu, A. (2018). What matters to women during childbirth: A systematic qualitative review. *PLOS ONE*, *13*(4), e0194906. https://doi.org/10.1371/journal.pone.0194906

Ezeonu, P., Anozie, O., Onu, F., Esike, C., Mamah, J., Lawani, L., Onoh, R., Ndukwe, E., Ewah, R., & Anozie, R. (2017). Perceptions and practice of epidural analgesia among women attending antenatal clinic in Fetha. *International Journal of Women's Health*, *Volume 9*, 905–911. https://doi.org/10.2147/ijwh.s144953

Glanz, K., Rimer, B. K., & Viswanath, K. (2015). *Health behavior: Theory, research, and practice (jossey-bass public health)* (5th ed.). Jossey-Bass.

Gochman, D. S. (1997). *Health behavior for research: definitions and diversity* [Handbook of health behavior research: personal and social determinants]. New York: Plenum Press.

Harkins, J., Carvalho, B., Evers, A., Mehta, S., & Riley, E. T. (2010). Survey of the factors associated with a woman's choice to have an epidural for labor analgesia. *Anesthesiology Research and Practice*, *2010*, 1–8. https://doi.org/10.1155/2010/356789

Henderson, J., Gao, H., & Redshaw, M. (2013). Experiencing maternity care: The care received and perceptions of women from different ethnic groups. *BMC Pregnancy and Childbirth*, *13*(1). https://doi.org/10.1186/1471-2393-13-196

Husarova, V., Macdarby, L., Dicker, P., Malone, F. D., & McCaul, C. L. (2016). The use of pain relief during labor among migrant obstetric populations. *International Journal of Gynecology & Obstetrics*, *135*(2), 200–204. https://doi.org/10.1016/j.ijgo.2016.05.003

Keele, R. (2010). *Nursing research and evidence-based practice: Ten steps to success (keele, nursing research & evidence-based practice)* (1st ed.). Jones & Bartlett Learning.

Kivunja, C. (2018). Distinguishing between theory, theoretical framework, and conceptual framework: A systematic review of lessons from the field. *International Journal of Higher Education*, *7*(6), 44. https://doi.org/10.5430/ijhe.v7n6p44

Laine, K., & Räisänen, S. (2020). Effect of maternal country of birth on intrapartum epidural use – a population-based register study of 602 095 deliveries. *European Journal of Obstetrics & Gynecology and Reproductive Biology*, *250*, 41–47. https://doi.org/10.1016/j.ejogrb.2020.04.013

Lally, J. E., Thomson, R. G., MacPhail, S., & Exley, C. (2014). Pain relief in labour: A qualitative study to determine how to support women to make decisions about pain relief in labour. *BMC Pregnancy and Childbirth*, *14*(1). https://doi.org/10.1186/1471-2393-14-6

Lam, K., Leung, M., & Irwin, M. G. (2020). Labour analgesia: Update and literature review. *Hong Kong Medical Journal*. https://doi.org/10.12809/hkmj208632

Loke, A., Davies, L., & Li, S. (2015). Factors influencing the decision that women make on their mode of delivery: The health belief model. *BMC Health Services Research*, *15*(1). https://doi.org/10.1186/s12913-015-0931-z

McCauley, M., Actis Danna, V., Mrema, D., & van den Broek, N. (2018). "we know it's labour pain, so we don't do anything": Healthcare provider's knowledge and attitudes regarding the provision of pain relief during labour and after childbirth. *BMC Pregnancy and Childbirth*, *18*(1). https://doi.org/10.1186/s12884-018-2076-7

Nanji, J. A., & Carvalho, B. (2020). Pain management during labor and vaginal birth. *Best Practice & Research Clinical Obstetrics & Gynaecology*, *67*, 100–112. https://doi.org/10.1016/j.bpobgyn.2020.03.002

Olaleye, O., Dada, S., & Alabi, G. O. (2020). Awareness and utilization of obstetric epidural analgesia in labour among pregnant women in wesley guild hospital Ilesha, Nigeria. *International Quarterly of Community Health Education*, 0272684X2097283. https://doi.org/10.1177/0272684x20972839

Omenka, O. I., Watson, D. P., & Hendrie, H. C. (2020). Understanding the healthcare experiences and needs of African immigrants in the United States: A scoping review. *BMC Public Health*, *20*(1). https://doi.org/10.1186/s12889-019-8127-9

Polit, D., & Beck, C. (2020). *Nursing research* (11th ed.). Lippincott.

Riza, E., Kalkman, S., Coritsidis, A., Koubardas, S., Vassiliu, S., Lazarou, D., Karnaki, P., Zota, D., Kantzanou, M., Psaltopoulou, T., & Linos, A. (2020). Community-based healthcare

for migrants and refugees: A scoping literature review of best practices. *Healthcare*, *8*(2), 115. https://doi.org/10.3390/healthcare8020115

Ryan, T. P. (2013). *Sample size determination and power*. John Wiley & Sons.

Sankar, P. (2003). Medline definitions of race and ethnicity and their application to genetic research. *Nature Genetics*, *34*(2), 119–119. https://doi.org/10.1038/ng0603-119

Shoenbill, K., Song, Y., Cobb, N. L., Drezner, M. K., & Mendonca, E. A. (2017). IRB process improvements: A machine learning analysis. *Journal of Clinical and Translational Science*, *1*(3), 176–183. https://doi.org/10.1017/cts.2016.25

Tamir, C. (2022, January 27). *Key findings about black immigrants in the u.s.* Pew Research Center. https://www.pewresearch.org/fact-tank/2022/01/27/key-findings-about-black-immigrants-in-the-u-s/

Thomson, G., Feeley, C., Moran, V., Downe, S., & Oladapo, O. T. (2019). Women's experiences of pharmacological and non-pharmacological pain relief methods for labour and childbirth: A qualitative systematic review. *Reproductive Health*, *16*(1). https://doi.org/10.1186/s12978-019-0735-4

Togioka, B. M., Seligman, K. M., Werntz, M. K., Yanez, N., Noles, L. M., & Treggiari, M. M. (2019). Education program regarding labor epidurals increases utilization by hispanic medicaid beneficiaries. *Anesthesiology*, *131*(4), 840–849. https://doi.org/10.1097/aln.0000000000002868

Waldum, Å., Jacobsen, A., Lukasse, M., Staff, A., Falk, R., Vangen, S., & Sørbye, I. (2020). The provision of epidural analgesia during labor according to maternal birthplace: A norwegian register study. *BMC Pregnancy and Childbirth*, *20*(1). https://doi.org/10.1186/s12884-020-03021-8

Wilson, S. H., Elliott, M. P., Wolf, B. J., & Hebbar, L. (2014). A prospective observational study of ethnic and racial differences in neuraxial labor analgesia request and pain relief. *Anesthesia & Analgesia*, *119*(1), 105–109. https://doi.org/10.1213/ane.0000000000000260