

Variation in Cesarean Birth Rates by Labor and Delivery Nurses

Joyce K. Edmonds, Michele O'Hara, Sean P. Clarke, and Neel Shah

Q6

Correspondence

Joyce K. Edmonds, PhD,
MPH, RN, Boston College,
140 Commonwealth Ave.,
Chestnut Hill, MA 02467.
joyce.edmonds@bc.edu

Keywords

cesarean
measurement
nursing
quality indicators
variation

ABSTRACT

Objective: To examine variation in the cesarean birth rates of women cared for by labor and delivery nurses.

Design: Retrospective cohort study.

Setting: One high-volume labor and delivery unit at an academic medical center in a major metropolitan area.

Participants: Labor and delivery nurses who cared for nulliparous women who gave birth to term, singleton fetuses in vertex presentation.

Methods: Data were extracted from electronic hospital birth records from January 1, 2013 through June 30, 2015. Cesarean rates for individual nurses were calculated based on the number of women they attended who gave birth by cesarean. Nurses were grouped into quartiles by their cesarean rates, and the effect of these rates on the likelihood of cesarean birth was estimated by a logit regression model adjusting for patient-level characteristics and clustering of births within nurses.

Results: Seventy-two nurses attended 3,031 births. The mean nurse cesarean rate was 26% (95% confidence interval [23.9, 28.1]) and ranged from 8.3% to 48%. The adjusted odds of cesarean for births attended by nurses in the highest quartile was nearly 3 times (odds ratio = 2.73, 95% confidence interval [2.3, 3.3]) greater than for births attended by nurses in the lowest quartile.

Conclusion: It is suggested in the wide variations in cesarean rates across nurses that the nurse assigned to a patient may influence the likelihood of cesarean birth. Data regarding this outcome could be used to design practice improvement initiatives to improve nurse performance. More precise measurement of the relative influence of nurses on mode of birth is needed.

JOGNN, ■, ■-■; 2017. <http://dx.doi.org/10.1016/j.jogn.2017.03.009>

Accepted March 2017

Joyce K. Edmonds, PhD,
MPH, RN, is an assistant
professor in the Connell
School of Nursing, Boston
College, Chestnut Hill, MA.

Michele O'Hara, MSN, RN,
NE-BC, is the Nursing
Director, Department of
Labor and Delivery,
Massachusetts General
Hospital, Boston, MA.

(Continued)

The authors report no conflict of interest or relevant financial relationships.



Cesarean is the most common major surgery in U.S. hospitals (Pfuntner, Wier, & Stocks, 2013) and accounts for 1 in 3 births in the United States. Substantial variation (15-fold) in cesarean rates by hospital among women at low risk for the procedure is contributory to perinatal morbidity and an estimated \$5 billion in excess spending annually (MacDorman, Menacker, & Declercq, 2008; Zhang et al., 2010). Hospital-level variation in the cesarean rate is not fully explained by patient risk factors or preferences and is instead widely believed to be driven by differences in clinician practices (Barber et al., 2011; Caceres et al., 2013; Spong, Berghella, Wenstrom, Mercer, & Saade, 2012). To measure and understand variability in clinician practices is therefore a focus of quality improvement efforts to reduce cesarean rates (The Joint Commission, 2015). However, despite extensive involvement of physicians and nurses in the direct clinical care of women in

labor, only the variation across physicians attending births on cesarean rates has been extensively studied. This is due, in part, to lack of validated metrics with demonstrated sensitivity to intrapartum nursing interventions and information systems to capture nursing observations and interventions. With advances in electronic hospital information systems, it is now possible in more hospitals to link each nurse caring for each patient with clinical and outcome data. Therefore, our study aim was to measure variation in the cesarean birth rates of women cared for by nurses at a single, high-volume academic labor and delivery unit using information from the electronic health record. Our study was informed by the structure, process, outcome paradigm for health care quality (Donabedian, 2005) and by questions about the ability to measure and analyze the extent and source of clinical variation in nursing practice to pinpoint potential opportunities for improvement.

Measuring nurse-specific cesarean birth rates is a first step toward understanding how individual nurses influence mode of birth.

Measuring nurse-specific cesarean rates is a first step toward understanding how individual nurses influence mode of birth and, more broadly, how they affect the care and outcomes of women and newborns during childbirth (Edmonds, Hacker, Golen, & Shah, 2016). Although accountability for intrapartum outcomes is shared, nurses are key members of the team who are constantly present throughout labor and birth and provide much of the direct patient care during the intrapartum period. Cesarean rates in low-risk women are a potentially valid nurse-level performance measure that might have important implications for practice development and management.

Literature Review

Labor and delivery nurses attend nearly all of the four million U.S. hospital-based births (Bingham & Ruhl, 2015) and provide care (Gennaro, Mayberry, & Kafulafula, 2007; Simpson, 2005) that can influence mode of birth (Bailit, Dierker, Blanchard, & Mercer, 2005; Sharma et al., 2009; Zhang et al., 2010). Nurses are also known to affect the clinical behaviors and labor management decisions of physicians (Edmonds & Jones, 2012; Flamm, Berwick, & Kabcenell, 1998; Simpson, James, & Knox, 2006). Nurses, for example, may communicate and negotiate with physicians strategically to allow more time for women to labor and discuss clinical opinions about fetal assessment and oxytocin administration with physicians. Previous researchers showed that the number of nurses who care for a woman (Gagnon, Meier, & Waghorn, 2007), a nurse's cognitive frame or attitudes about birth (Regan & Liaschenko, 2007), and the time a nurse spends in the provision of labor support (Hodnett, Gates, Hofmeyr, & Sakala, 2007, 2013) might influence mode of birth. For example, an increased number of nurses managing a woman in labor, nurse beliefs that birth is a risky process, and less time spent providing direct nursing care and support at the bedside might increase the risk for cesarean.

Clinical observations on any given obstetric unit indicate that there are certain nurses who appear to consistently have low intervention rates, low cesarean rates, and good maternal and neonatal outcomes, irrespective of patient risk levels or the physician involved. However, only one group of

researchers has addressed this topic to date. Radin, Harmon, and Hanson (1993) found that the unadjusted cesarean rates by quintile for 14 nurses who attended 216 births varied from 4.9% for nurses in the lowest group to 19% for nurses in the highest group. No further studies of this type have been conducted.

Measurement of the cesarean rate among nulliparous women with term, singleton fetuses in vertex presentation (NTSV) may help identify the contribution of individual nurses to perinatal outcomes. First, this rate is a widely endorsed perinatal quality measure at the physician, hospital, and national levels, and as a result most hospitals collect the requisite data elements for its calculation. Second, the use of specific nursing practices may reduce the likelihood of cesarean birth in women having their first newborns, including limiting admissions in early labor, making standard assessments of fetal heart rate and labor progression, supporting non-pharmacologic approaches to relieve labor pain, assisting in position changes, encouraging pushing in second-stage labor, and providing continuous labor support. Providing feedback to nurses on their cesarean rates in NTSV births as part of an audit and feedback intervention could be used to engage them to explore and ultimately standardize practices.

Methods

Setting and Sample

This retrospective cohort study was conducted with data from an obstetric unit in an academic medical center with a volume of 3,500 births per year. The hospital's institutional review board approved the study. The obstetric unit comprises 12 private labor, delivery, and recovery rooms; two operating rooms; and a triage area. Primary nursing supports a patient care delivery model in which the registered nurse (RN) labor and delivery staff are cross-trained and circulate to the operating room as needed. The hospital is designated by the American Nurses Credentialing Center as a Magnet facility, a recognized marker of high-quality management of nursing services. Nurse-patient assignments are made independently of women's risks for cesarean birth, and intrapartum management is based on the managing providers' interpretation of case presentation and clinical judgment, informed by professional standards of care and the perspectives of nurses and patients. In general, nursing assignments on this unit, particularly of low-risk women with NTSV pregnancies, are made without regard to factors that can increase or decrease the potential

Sean P. Clarke, PhD, RN, FAAN, is a professor and Associate Dean of the Connell School of Nursing, Boston College, Chestnut Hill, MA.

Neel Shah, MD, MPP, is an assistant professor, Beth Israel Deaconess Medical Center, Harvard T. H. Chan School of Public Health, Boston, MA.

Download English Version:

<https://daneshyari.com/en/article/5565597>

Download Persian Version:

<https://daneshyari.com/article/5565597>

[Daneshyari.com](https://daneshyari.com)