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The Vanishing Mother: Cesarean Section and "Evidence-Based Obstetrics"

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The Vanishing Mother

Cesarean Section and "Evidence-Based Obstetrics"

The philosophy of "evidence-based medicine"—basing medical decisions on evidence from randomized controlled trials and other forms of aggregate data rather than on clinical experience or expert opinion—has swept U.S. medical practice in recent years. Obstetricians justify recent increases in the use of cesarean section, and dramatic decreases in vaginal birth following previous cesarean, as evidence-based obstetrical practice. Analysis of pivotal "evidence" supporting cesarean demonstrates that the data are a product of its social milieu: The mother's body disappears from analytical view; images of fetal safety are marketing tools; technology magically wards off the unpredictability and danger of birth. These changes in practice have profound implications for maternal and child health. A feminist project within obstetrics is both feasible and urgently needed as one locus of resistance.

Keywords: [evidence-based medicine; childbirth; cesarean; feminist anthropology]

It's not about feelings—it's about the data. This is evidence-based obstetrics.

—E. M., obstetrician, justifying a cesarean section

In recent years, obstetricians have enthusiastically embraced a new paradigm of clinical decision making widely known as "evidence-based medicine." This new emphasis on evidence is spurred by a long-standing perception that obstetrics is one of the least scientific branches of clinical medicine (Rooks 1999). Rather than relying on experience, tradition, intuition, or the recommendations of medical authorities, the clinician trying to practice in an evidence-based way seeks to identify and evaluate the best studies available on the issue in question and make clinical decisions based on the outcomes shown in such studies (Evidence-Based Medicine Working Group 1992). The well-funded obstetrician may even purchase access to a database of clinical trials to guide his or her every decision. Besides compassion, judgment, surgical dexterity, and a substantial fund of knowledge, essential traits for the clinician now include a head for statistics and around-the-clock Internet access.

MEDICAL ANTHROPOLOGY QUARTERLY, Vol. 21, Issue 2, pp. 218–233, ISSN 0745-5194, online ISSN 1548-1387. © 2007 by the American Anthropological Association. All rights reserved. Please direct all requests for permission to photocopy or reproduce article content through the University of California Press's Rights and Permissions website, <http://www.ucpressjournals.com/reprintInfo.asp>. DOI: 10.1525/MAQ.2007.21.2.218.

Medical knowledge is hierarchically ranked in this new epistemology. For U.S. physicians, types of evidence are codified in a system developed by the U.S. Preventive Services Task Force in 1989 and widely adopted since then by medical journal editors (Funai 1997) and practice committees (Hale 2001). At the apex of this evidence pyramid, "level I" is the randomized, preferably double-blinded, controlled trial (RCT). Lesser forms of evidence, such as the cohort studies (level II) or case reports (level III) that continue to make up the bulk of published research (Funai 1997), are considered progressively more vulnerable to error.

The obstetrician who carefully reads the literature and selects appropriate clinical trials is to be freed of superstition, subjectivity, and bias, for clinicians believe well-designed studies to be apolitical, scientific, and objective. But are they? In this article, I examine recent influential research involving cesarean sections to uncover the assumptions that shape the selection of research problems,¹ the choice of what is to constitute "evidence," and the interpretation of that evidence—in an era in which worldwide cesarean rates are skyrocketing.² I use feminist theory to connect these underlying assumptions with gendered ideas of nature, birth, and the female body.

I address here only the *production* of evidence-based obstetric knowledge, the complex and messy process by which data are collected, analyzed, published, selected for public and professional attention (or ignored), and sometimes transformed in the process.³ By limiting my focus in this way, I do not mean to imply that the practice of obstetrics—or any other branch of medicine—actually is evidence based, or to downplay the roles of other powerful persuasive influences such as professional guidelines, consensus conferences, or legal and economic pressures. That is another rich discussion. But when obstetricians are able to present their decisions about cesarean section as value-neutral noncontingent givens that simply reflect "the data," we can suspect that a great deal of interest is being swept under the evidence-based rug and that a careful analysis of the assumptions embedded in that data will be revealing.

Background

In a cesarean section, the surgeon cuts through the skin and fat of the lower abdomen, slices through the tough underlying fascia, and pulls apart the muscles of the abdominal wall. Opening the peritoneum, a thin sac that encases the abdominal and pelvic organs, the surgeon peels the bladder away from the uterus, cuts open the uterus itself, and pulls out the baby and placenta. All of this can usually be done in a minute or two; the remainder of the operation consists of suturing or stapling together the layers previously cut. In the United States, this operation takes place an average of 137 times every hour, or 1.2 million times each year.⁴

What is now a routine obstetrical operation was once a procedure done only in extremis, and few women survived. Physician Robert Harris, in a late 19th-century report, compared outcomes for women who underwent cesarean section and those gored by bulls through the abdomen and uterus in an advanced stage of pregnancy. Five of nine women lacerated by cattle survived, compared with one in 12 lacerated by New York physicians, "a far better showing for the cow-horn than the knife" (Harris 1887:685). Surgical innovations—most importantly aseptic technique, anesthesia, and uterine sutures—helped reduce maternal mortality from cesarean section

to below 20 percent by the 1930s (Speert 1980). Obstetricians reviewing case reports of successful and unsuccessful operations soon became aware that the timing of cesarean was perhaps even more crucial than the technique: Operations performed early in labor, or even before the onset of labor, were far less likely to result in maternal death (Eastman 1932). Women in good health, not surprisingly, fared better than those exhausted, infected, and already close to death's door. Cesarean became more common early in labor, and maternal mortality dropped commensurately, so that by 1965 the U.S. cesarean rate had risen to 4.5 percent and case mortality had dropped to well below one percent (Jones 1976). Abdominal surgery to deliver a baby, until midcentury considered only to save the mother's life, at this point began to seem to many doctors a reasonable option for a fetus in danger as well. With the introduction and rapid acceptance of electronic fetal monitoring in the 1960s and 1970s,⁵ and the nearly simultaneous boom in malpractice litigation,⁶ rates of cesarean for fetal indications soared.

Feminists and consumer advocates soon sounded alarms over this rapid increase (Arms 1975; Cohen and Estner 1983). Critics suggested that cesareans were being performed because they were more lucrative and more convenient for physicians, not because women really needed them. They questioned the use of cesarean for such conditions as breech presentation and previous cesarean delivery, pointing to the paucity and poor quality of the data supporting these indications (see Goer 1994). Although many in and out of the medical field had expressed concern over cesarean rates in the past,⁷ now the entire ideology of U.S. obstetrics was attacked as a system in which male physicians saw women's bodies as inherently dysfunctional (Corea 1985). Under pressure from patients, insurance companies, and critics within the profession, obstetricians began cautiously to reduce the use of cesarean section. By the late 1980s, vaginal birth after a previous cesarean (VBAC) became more widely accepted and encouraged, strict definitions of *dystocia* (abnormal labor) were promulgated, peer reviews of cesarean sections became routine, and some prominent obstetricians urged vaginal delivery for mothers bearing breech babies. With these measures, the rapid increase in operative delivery slowed through the 1980s, and actually dipped slightly (see Figure 1).

Obstetrics was able to proclaim itself a kinder, gentler profession, putting the old masculinist ways behind it. After all, were not more and more women entering the profession (Newton 1987)?

In the past ten years, however, the impetus to decrease use of cesarean section seems to have slowed and recently even reversed. Indications for cesarean delivery are again proliferating in the medical literature, and vaginal breech and VBAC, not long ago considered safe for most mothers and infants, are now increasingly held to be extraordinarily perilous for women, babies, and their obstetricians. Obstetrical authorities argue that, even with no medical indication, maternal-choice or "prophylactic" cesarean may be the preferred model of birth. The shift is not just in the medical literature or in the hallway talk in hospital labor wards or operating rooms; it is reflected in national statistics that show a rapid rise in cesareans and a precipitous drop in VBACs. This time around, the proponents of cesarean section are armed with evidence. Just what are these data, and how are they arranged into a narrative of birth? A closer look at three particularly influential studies is enlightening.⁸

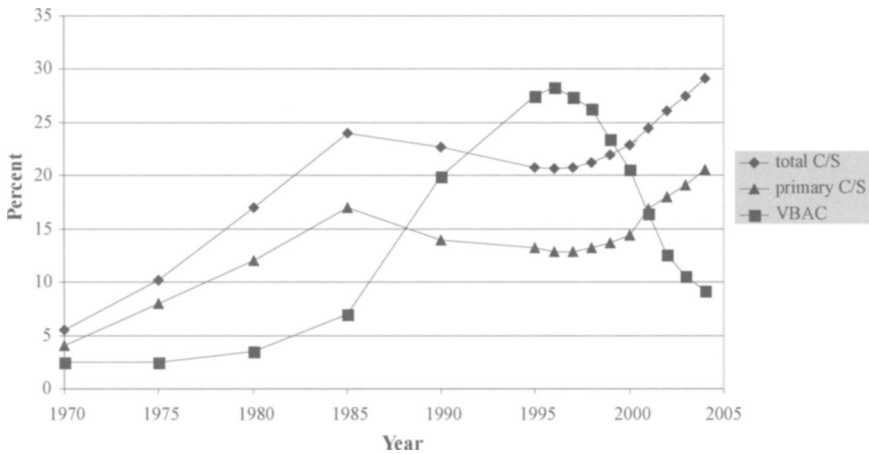


Figure 1 Trends in U.S. Cesarean and Vaginal Deliveries

Note. Source data from 1990 to 2004 are from the National Center for Health Statistics at <http://www.cdc.gov/nchs>, accessed March 23, 2007. Data before 1990 are abstracted from Goer (1994). C/S (cesarean) rates are given as percent of all births. VBAC rates are given as percent of births in women with a single prior cesarean delivery.

The Articles

The first study (McMahon et al. 1996), a retrospective case series, was a large Canadian trial that led the backlash against VBAC. In this longitudinal study of 6,138 pregnant women with a single prior cesarean delivery, 3,248 attempted “trial of labor,”⁹ and 60 percent of these delivered vaginally. Although overall maternal and neonatal complications were no different between the two groups, women who had a cesarean section after initiating a trial of labor (the “failed VBAC”) were twice as likely as those who had an elective cesarean section to experience major complications. The authors closed with a recommendation to restrict trial of labor to women with at least an 80 percent likelihood of success and argued for development of scoring systems to identify such women.

The second study, published by a large group led by Mary E. Hannah in 2000, is a randomized controlled trial known as the Term Breech Trial. Hannah and her collaborative group directed a 121-center, 26-country trial of vaginal delivery versus elective cesarean delivery for selected breech fetuses, controlling for a number of factors including experience of the birth attendant (the term used in the report is *operator*). External cephalic version, a procedure in which the attendant manually turns the fetus into a head-down presentation, was not part of the trial protocol. Hannah and colleagues demonstrated significantly lower perinatal morbidity and mortality in the cesarean group in settings in which perinatal morbidity and mortality are already low; in Third World centers differences in morbidity were not significant, and differences in mortality were considerably smaller although still statistically significant.¹⁰ Maternal complications were not appreciably different in the two groups.

In the third study, Mona Lydon-Rochelle and colleagues used a large Washington state database of hospital discharge procedure and diagnosis codes to analyze complications of second births in women who had delivered a first child by cesarean (2001).¹¹ The authors calculated that uterine rupture, the most feared complication of a prior cesarean, occurred at a rate of 4.5 per 1,000 births. The rate was lowest (1.6/1,000) in the case of scheduled repeat cesarean section, higher with spontaneous labor (5.2/1,000) or labor induced using oxytocin (7.7/1,000), and much higher yet—24.5 per 1,000 births—in women whose labor was induced with prostaglandins. Although the overall rate of uterine rupture was no different from that reported in prior studies, and although the authors focused their own discussion on the peril of prostaglandin use in women with prior cesarean section, the study was interpreted in the larger medical community as a nail in the coffin for VBAC. A table comparing morbidity in cases with and without uterine rupture was widely disseminated, and an accompanying editorial (Greene 2001) argued that the safest course in women with a prior scar was elective repeat cesarean section.

All of these studies were designed and reported in accordance with the principles of evidence-based medicine, were widely discussed in the medical community, and were in fact pivotal in changing practice patterns. To most clinicians, they appeared to be neutral and therefore unassailable collections and analyses of data. These studies can be read—and are read—as definitive proof of the benefits of cesarean section for the breech fetus, for the pregnant woman with a prior cesarean section, and for her fetus. A closer look calls this proof into question.

Selecting Evidence

Every researcher makes choices about the sort of data to collect. What counts as an important consequence of birth, whether beneficial or adverse? Several interesting omissions become apparent when the studies are reassessed from this perspective.

First, maternal subjectivity is entirely lacking. Other studies have linked cesarean delivery with increased pain, slower recovery, more time away from family, increased maternal distress even years afterward, negative feelings about the birth and about the baby (see Clement 2001 and Mutryn 1993 for reviews of this literature). The authors of the three studies discussed here, in choosing not to include such outcomes as maternal pain or grief, cast these concerns as unimportant.¹² The mother's experience of birth and its aftermath vanishes from analysis.

Second, consequences for the maternal–newborn dyad are ignored. Anthropologist James McKenna, whose groundbreaking research concerns cosleeping and its effects on Sudden Infant Death Syndrome, has criticized much biomedical research for its assumption that the newborn is physiologically separate from its mother immediately after birth (McKenna 1996). This culture-bound emphasis on rapid individuation has led researchers to downplay consequential aspects of newborn life such as breast feeding, newborn alertness, or mother–infant bonding. Although other work has demonstrated significant detrimental effects of cesarean section on all of these measures (see Mutryn 1993), they are omitted from all three of the studies reviewed here.

Third, complications are restricted to the short-term, most to the hospital stay itself. None of the three studies addresses long-term complications for the

mother: formation of adhesions (internal scar tissue), hysterectomy or massive hemorrhage in subsequent pregnancies, or even the delayed thromboembolism (clot formation) risks that are the major cause of cesarean-related postpartum maternal death in the First World (see Grisaru and Samueloff 2004 or Shearer 1993 for a review of this literature). Certainly long-term follow-up makes a study more time-consuming and difficult. Yet the substitution of short-term for long-term indicators of well-being or harm is both deeply problematic and an essentially political decision. The Term Breech Trial of Hannah and colleagues makes this particularly clear. Based on short-term indicators of possible neonatal compromise (measures such as Apgar scores, brachial plexus palsy, or newborn somnolence), the authors halted the study at an interim analysis, declaring vaginal breech birth too dangerous to continue to allow. U.S. obstetrical practice guidelines promptly followed, encouraging cesarean births for all breech pregnancies (American College of Obstetricians and Gynecologists 2001). This study group, however, did follow up a large subset of mothers and infants—those enrolled at centers where follow-up was feasible. The reports that followed after a two-year analysis (Hannah et al. 2000; Whyte et al. 2004) showed no differences in neurodevelopmental delay or death—the major outcomes to be addressed by the study, and those that prompted its early termination—among newborns delivered vaginally or by cesarean.¹³ The follow-up studies were published in less prestigious journals, with much less global reach, and have had little impact. Although long-term indicators of neurodevelopmental delay are more important and reliable than short-term substitutes, no author, and no professional body, has retracted the recommendations made on the basis of the original report. The determination of what constitutes an adequate length of follow-up for clinical decision-making purposes is clearly not a neutral and objective one.¹⁴

Relegation of complications to "major" and "minor" categories in two of the three trials (Lydon-Rochelle et al. [2001] lists only major complications) is also revealing. Operative injury such as unintended cutting of the bladder is considered a major complication, for instance, whereas abdominal wound infection is considered minor. This allocation is reasonable from a physician's perspective; as one commentator points out, operative injury is "injurious to the surgeon's honor" (Saad 1997:659). From the perspective of the woman experiencing these complications, however, the ranking may not make much sense. Bladder injury sometimes requires catheter drainage of the bladder for several days but tends to be without longer-term sequelae. Abdominal wound infection may result in an open wound for weeks, for which the woman's family or home nursing staff must change dressings. Scarring can be major, and recovery is painful and prolonged, if predictable and uneventful from a clinician's perspective. The ranking of complication severity reflects a physician-centered world.

Probably the most breathtaking move in the selection of evidence is that none of these authors considers the cesarean itself as injurious. Unintended wounds—cervical lacerations, vaginal hematomas, or fracture of a newborn's clavicle—count as major morbidity, but the intentional wound is exempt by fiat: Only unintended complications of the cesarean are weighed in the balance.¹⁵ This choice in fact reflects an up-front assumption that cesarean and vaginal delivery are equal alternatives, and that vaginal delivery must be justified as a delivery method as much as cesarean is, or more.

The Bigger Picture

These highly regarded, influential studies are far from “neutral” or “objective,” as this brief data analysis shows. Vaginal birth and cesarean surgery are socially constructed by these authors under the rubric of evidence-based medicine in consonance with wider narratives of birth, in the world at large and in the Western technocracy, specifically.

Feminist anthropologists have long noted the liminality of reproduction and birth cross-culturally. One person becomes two in a natural and in many respects inexplicable process that is the domain of women. In Sherry Ortner’s vision, birth stands uneasily between the two realms of woman–nature and man–culture, as future men are born of women (Ortner 1974; see also Rich 1977). Jean Comaroff, drawing on ethnographic research with the Tshidi-Barolong, describes reproduction as symbolically marginal, “midway between society and the wild” (Comaroff 1982:52). As in any marginal space, magical interventions abound. Rituals, as Robbie Davis-Floyd (1992) and others argue, allow people in all cultures to make sense of terrifying transitions like birth and death, perhaps even to feel a sense of control. The way in which obstetrical ritual wards off the terror that lurks near each birth leaks through even in these dry articles. The authors of the breech study dismiss obstetricians who support vaginal breech birth as those who “have never personally assisted at a difficult vaginal breech birth resulting in a stillbirth or a neurologically depressed or damaged infant” (Hannah et al. 2000:1382). As other anthropologists have noted of biomedicalized childbirth, tragedy confers ritual authority here and is used to keep dissenters in line (see, e.g., Kaufert and O’Neil’s 1993 analysis of the language of risk and the biomedical colonization of birth among Canadian Inuit people).

Both Comaroff and Davis-Floyd contend that healing interventions cross-culturally bring order to a liminal space by reinforcing core cultural values. Davis-Floyd (1992), building on the work of anthropologist Brigitte Jordan (1993), showed that, in the West, high cultural valuation is placed on science, technology, patriarchy, and the institution. If institutionalized patriarchy is a core facet of birth in the United States, it is no wonder that morbidity that most profoundly affects the obstetrician and the institution is most important, whereas that intentionally inflicted by the obstetrician or by the institution becomes less visible, or even invisible. It is no wonder that maternal subjectivity and maternal–newborn dyad outcomes disappear, poorly measured by the routine techniques of science and nearly impossible to address in randomized studies that relegate any given patient to the status of a black box.

An almost religious belief in technology also explains some of the paradoxes of obstetrics, and of what appears and what vanishes within the evidence on cesarean section. Technological inventions without proven benefit, such as external fetal monitoring, may be enthusiastically adopted, whereas nontechnological interventions, such as the presence of a trained support person during a woman’s labor, remain little used despite excellent evidence showing improved outcomes for mother and infant (Rooks 1999). Obstetricians’ faith in technology explains why cesarean surgery is gradually assuming the status of the “unmarked”—literally, as even the wound becomes invisible to the eyes of researchers. Meanwhile, vaginal delivery becomes marked as unpredictable, uncontrolled, and therefore dangerous, appropriate for only a select few. The breech trial authors clearly demonstrate the ascendancy of

cesarean as the unmarked option when they remark: "We wished to give the option of vaginal breech delivery its best, and perhaps last, chance to be proven a reasonable method of delivery" (Hannah et al. 2000:1381).

I believe that two other core cultural values can be seen in the evidence-based calls for cesarean: safety, which trumps "selfish" concerns of subjectivity, and market capitalism, in which long-term complications of consumption are notoriously underestimated when they are imagined at all. Safety and consumer ideology interpenetrate with the veneration of technology, the institution, and patriarchy in such a way that they become located in the hospital and embodied in the doctor, whose tools and technological expertise become the safe fetal space to be purchased by expectant mothers. Her eyes extended by ultrasound, her hands by scalpel and laparoscope, her brain linked to databases of the latest clinical research, the cyborg obstetrician seems to guarantee the perfectly predictable product-baby.¹⁶ How can a conscientious pregnant consumer justify buying anything less?

These core values are held not only by physicians and are visible not only in the medical literature, as Sargent and Stark (1987) demonstrated. The recent growth in consumer desire for and "choice" of cesarean section demonstrates that many women share a faith in technology, science, and the institution, and perhaps even a distrust of their own bodies (and of the processes of labor and birth) as sites of risk.

Historically, ideas about the superior safety of technological medicine are impossible to separate from the economic competition between doctors and midwives at the turn of the 20th century in the United States and Great Britain. As Londa Schiebinger (2000) shows, the male body—and the male physician—became the naturalized site of science during this era. Meanwhile, the image of the hospital as the only site of safe birth was created in the early 20th century as part of the strategy to advance obstetrics, marginalize mothers, and crush midwifery.¹⁷ Science, safety, and the hospital became cathected to one another. As a direct result of the much later backlash against techno-obstetrics, midwives entered the hospital in increasing numbers as the 20th century came to a close. Although the numbers were still fairly small, the rise in births attended by hospital-based midwives from the mid-1980s was rapid until very recently, and midwives came to pose a real economic and philosophical threat within the walls of the institution. And as entering the hospital is no longer sufficient to quash the threat of midwifery, we see the zone of obstetrically sanctioned safety begin to shrink to the operating room, and to the surgeon's technologically extended body.¹⁸

If the philosophical and economic exigencies of obstetrics construct the doctor's (cultural) body as the site of safety, the mother's (natural) body becomes the site of risk: risk to herself, and risk to her fetus. Feminists have commented on the mother-as-sociopath construction that accompanies fetal rights politics (Roth 1993) and antihomebirth politics (Craven 2005); in the politics of cesarean delivery the assumption is less one of maternal sociopathology and more one of maternal pathophysiology (cf. Hahn 1987). Nowhere is this construction clearer than in the 1996 VBAC study. In their closing paragraph, McMahon and colleagues argue that "the way to decrease the overall risk entailed by a trial of labor (including the risk of major complications) is by selecting women who have a high probability (perhaps more than 80 percent) of delivering their babies vaginally" (1996:694). This

recommendation would be sensible if the risk for “failed trial of labor” were a matter of maternal physiology or history. But consistently and worldwide, the literature does not bear out such an assumption. The best predictors for success or failure of a trial of labor are found not in the mother’s body but, rather, in the mother’s insurance status, the time of day, the hospital or clinic, and the types of birth attendants during labor. Their own data demonstrate the misdirection of these authors’ conclusion: Delivery at a tertiary center—even though those women referred to such centers were in higher risk categories—was among the best predictors of vaginal birth.

In these studies overall, the brevity of follow-up for maternal outcomes, the lack of any subjective measures of maternal well-being, and the failure to examine maternal–neonatal dyad outcomes even when they are clearly important predictors of newborn (and later) well-being suggest a stubborn vision of women as fetal containers. When they have held on to their fetuses long enough to get them into the doctors’ hands, their medical usefulness and interest is over. Feminist theorists (Barad 1998; Petchesky 1987; see also Morgan and Michaels 1999) have suggested that increasingly sophisticated fetal imaging techniques—the physician’s cyborg gaze—strengthen the tendency to see mothers only as vessels. Pregnant women may experience a sort of personal annihilation in the face of “a visual culture that increasingly privileges images of free-floating fetuses” (Matthews and Wexler 2000:xvi), while sanctifying the fetus as symbolic of life itself. Technology becomes both safe space for and locus of knowledge about the fetus, as the mother is rendered transparent, invisible; she vanishes from view.

Now What?

Evidence-based obstetrics, the new solution to bias in the science of birth, turns out to be as much a product of its social milieu as evolutionary primatology (Zihlman 1997), criminal anthropometry (Horn 1995), and a host of other scientific practices. This conclusion might be gratifying—if also perhaps dreadfully predictable—to me as an anthropologist, but it leaves me unsatisfied as an obstetrician. When I head into the hospital to counsel a woman considering VBAC, when a medical student asks about the evidence on vaginal breech birth, what do I say? Do the insights of anthropology offer any practical help in this hands-on, bloody, joyful, scary world, or do they merely kick the prop from under the shaky edifice we clinicians erect against the unbearable uncertainties of birth?

Possibly the most useful concept social theory can contribute to evidence-based obstetrics is that of situated knowledge (Haraway 1988). In this era of ostensibly data-driven clinical practice, the drive toward standardization and “neutrality” is ever more pronounced. In the course of training, culturally and socially diverse medical students become neutral physicians drawing on universal medical knowledge and applying it to the unmarked patient body (Beagan 2000). Variation—among practitioners, among practices—is itself the enemy, and standardization to eliminate variation is both production and proof of objectivity. But as Donna Haraway and others have convincingly demonstrated, “objective” or “neutral” knowledge is dominant knowledge disguised. If physicians insist on seeing ourselves as neutral and our research as objective, we give up our ability to confront the implications of our social

location and the political stances embedded within our knowledge production. This relinquishment in effect dooms us to the blindness in which, for example, we cannot see the pelvis-wide cesarean wound. Only when our vaunted scientific "objectivity" is critically reconfigured as a powerful, valuable, fallible, and partial contributor to medical knowledge can the imagined neutrality of medical research be confronted effectively, allowing other suppressed evidence to be brought to light.

Currently, physicians are trained to evaluate medical research on its own terms; that is, one uses only the rules and standards of the scientific method in the evaluation of scientific knowledge. An understanding of situated knowledge has the potential to break open this closed system, adding a critical reflexivity to the arsenal of evaluative tools clinicians bring to bear in the course of their work. Practitioners could learn to look for the underlying messages and assumptions of studies in addition to evaluating the statistical techniques. No physician would be able to say unironically that "the data speaks for itself." The data never do. These interventions go beyond "rooting out bias," which presupposes that a filter of perspective can be removed from scientific work to leave pure objectivity. There is no objectivity to be had, and the pretense that there is may be hazardous to women's health, as the studies discussed here make clear.

When physicians reject partial perspective, only supposedly "neutral" data are permissible, and feminist science is an oxymoron. When we accept the idea of responsible and reflexive partial perspective in medical research, a feminist project within medicine also becomes possible. Feminist anthropologists and other theorists who work on birth have been able to construct complex and thoughtful analyses of childbirth practices as culturally situated. But in the medical literature, writing on birth at present is too easily polarized between a stubbornly naive "birth works" model, on the one hand, and the fearful and technocratic "a chance to cut is a chance to cure," on the other hand. In the former, some (usually midwives and occasionally nurses) depict a sentimentalized view of birth as a predictably ecstatic experience, threatened only by the misogynist and power-hungry patriarchy of male-dominated obstetrics. In the latter, many (primarily obstetricians) depict labor and birth as hazardous proceedings requiring expert surveillance and vigilant supervision at all times. These discourses are at cross-purposes. Appearing in different journals, they preach only to the converted, although both are also marketed to the pregnant consumer of health care. Neither group creates a world the other recognizes as real. A feminist obstetrics could acknowledge the sometimes perilous unpredictability of birth and simultaneously explore the costs of the desire for the purchased promise of technologically mediated "safety."

Conclusion

Obstetrical knowledge, including the much-vaunted "evidence-based" paradigm, is socially constructed. In this article, I have linked major evidence influencing the practice of cesarean delivery to larger discourses about the nature of womanhood and of motherhood. Following in the footsteps of feminist anthropologists who analyze birth practices, I have shown how belief in the objectivity of data make women's experience vanish, and women's bodies dangerous sites from which fetuses must be rescued.

Evidence-based medicine is an important, if belated, contributor to clinical practice. The premise, that medical interventions should be proven effective before use, should have been key to obstetrics many years ago and could perhaps have prevented such missteps as the adoption of electronic fetal monitoring. But this evidence is no more exempt from social construction, from partial perspective, than any other. When it ignores significant outcomes; when its origins and uses are not considered thoughtfully; when it is used to reinforce norms that cast the female body as deviant and “risky,” to enforce standardization, and to erase the mother from birth, “evidence-based obstetrics” becomes not a new and powerful epistemologic tool, but an old and powerful means of gender oppression. We who would work for women’s health need to do better.

Notes

1. Source materials give five different spellings of the word cesarean. In this article, I follow the orthographic convention used in current U.S. medical literature. The terms *cesarean section*, *cesarean delivery*, and *cesarean* are interchangeable; I do not use the euphemism “cesarean birth.” *Scheduled* or *elective* cesarean in this article refer to surgery performed nonemergently before the onset of labor.

2. As a U.S. obstetrician writing in a U.S. journal, I focus here primarily on the cesarean section debate within the United States, and the shifts in discourse and practice occurring here. The rise in cesareans—for all indications, and for no indications—is a global phenomenon, however. In parts of the Third World, this increase in the use of surgical delivery is a deadly proposition, one that deserves serious attention from scholars, activists, clinicians, and public health professionals.

3. Johnson (1997) and others have already pointed out both the limitations of what can be measured in randomized controlled trials and their utility in supporting low-intervention birth practices. The problem of which studies have impact for which audiences is also key to an understanding of the limitations of “evidence-based medicine.” See DeVries 2004 for an excellent analysis of this problem in the setting of home birth in the Netherlands, in which it becomes clear that science follows practice rather than vice versa.

4. In 2004, the most recent year for which preliminary figures are available, 29.1 percent of the nation’s 4,115,590 births were by cesarean operations (Hamilton et al. 2005).

5. Electronic fetal monitoring (EFM) allows continuous recording of the fetal heart rate via transmitters strapped to the mother’s abdomen or an intrauterine monitor plus an electrode attached to the fetal head. Introduced as a replacement for intermittent auscultation of the fetal heart in 1960, on the theory that it could better predict and, thus, prevent neurological damage assumed to be related to labor, it was not evaluated in a controlled trial until 1979 (Haverkamp et al. 1979). This trial and those that followed have consistently demonstrated no long-term neonatal benefits to EFM; rather, they have shown significantly higher cesarean delivery rates (Banta and Thacker 2001). But because EFM allows fewer nurses to care for the same number of laboring women, and because many obstetricians believe EFM is necessary to protect them from litigation, it is nearly universally used in U.S. hospitals. The ongoing increase in EFM use is certainly one illustration that evidence alone does not dictate patterns of obstetrical care.

6. Nationally, more than three-quarters of board-certified obstetricians have been defendants in malpractice lawsuits, a higher percentage than that of any other medical specialty; the “bad baby” remains the most common (and most costly) cause of suits (Hankins et al. 2006). The impact of malpractice litigation on use of cesarean section is, however, extremely difficult to quantify.

7. A report from the New York Academy of Medicine urged a "sharp reduction" from the city's 2.2 percent cesarean rate in 1932 (Speert 1980:150).

8. In the English-language obstetrics literature pertaining to cesarean, the research papers chosen for analysis are three of the five most cited articles from the past ten years. (The other two articles address cesarean for prevention of mother-to-child transmission of HIV, a problem more marginal in most U.S. obstetrical practices.) Citation counts are only one crude measure of impact, however. All three of these papers were debated and discussed at conferences, in local journal clubs and hospital wards, and in the "throwaway" journals that inundate medical offices. Two of the three prompted position papers from the American College of Obstetricians and Gynecologists that had major effects on practice patterns.

9. The phrase "trial of labor" (in Britain "trial of scar") refers to a woman's attempt to deliver vaginally after a cesarean section in a previous pregnancy.

10. *Perinatal* refers to fetuses beyond 28 weeks gestation through the first month of newborn life.

11. Use of this type of administrative data to address clinical questions is controversial, as discharge coding is famously inaccurate. This concern did not stop readers of the article from making a sea change in practice as a result.

12. Hannah and colleagues (2000) do note three cases of clinical early postpartum depression among the women randomized to cesarean in their study.

13. They did show a statistically significant but unexplained increase in the rate of parent-reported medical problems in the cesarean group. Maternal outcomes were also no different (except for more chronic constipation in the cesarean group), and the authors did include some measures of subjective well-being and some measures of maternal-infant dyad function (although not overall breast-feeding rates). Maternal complications of cesarean section are most likely to appear during subsequent pregnancies and deliveries, however; few of the women followed had given birth again, and no details were given for those who had.

14. In a major study on route of delivery and maternal-child HIV transmission (one of the two mentioned in N. 8), infants were followed for at least 18 months and mothers for at least four days (European Mode of Delivery Collaboration 1999). This example makes clear that when long-term follow-up is deemed imperative before publication, it happens. It also suggests that newborn, not maternal, subjects are seen as the important ones.

15. In fact, I also failed to recognize this huge omission despite many close readings of these studies. Thanks to Mary Moore, CNM, for pointing it out.

16. The work of Haraway (1991) inspires this depiction of the cyborg physician. My consistent use of the female pronoun is intended to destabilize the occasional assumption that male domination is directly responsible for the technocracy and power imbalances of clinical medicine, and that simply increasing numbers of women in medicine will effect at least a partial cure. During my own residency training in the early 1990s, female trainees in obstetrics and gynecology first began to outnumber males nationwide. Today over three-quarters of obstetrics residents are women.

17. Emily Martin (1987) is among many anthropologists and historians who critically reflect on the shaping of this ideology in U.S. obstetrics. Anthropologists working in northern Canada have shown a similar process in more recent times, as rural health centers are constructed as sites of risk for delivery by misusing statistical evidence in a way that serves colonial interests (Kaufert and O'Neil 1990).

18. Midwife-attended births in the United States have reached a plateau in the most recent year for which data are available (2004; see Hamilton et al. 2005), and anecdotal evidence suggests that midwifery practices are again closing in the most competitive (and lucrative) sites of obstetrical practice.

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