



PERINATAL CARE

Recent years have seen increasingly vocal dialogue among perinatal care providers and researchers—as well as birthing women and their families—about the state of contemporary birth practice. These conversations center on the various consequences of selecting hospital versus home birthing environments, employing biomedical versus “traditional” knowledges, and using different strategies for assessing risk and measuring quality of care. Contributors to this series examine these topics and provide suggestions for how anthropologists can make key contributions to this domain, filling in gaps in our knowledge of birth practices and helping a diverse array of practitioners provide high quality perinatal care.

Competing Technologies in Perinatal Care

A Call for Dialogue between Low- and High-Tech Practitioners

BRIGITTE JORDAN
PALO ALTO RESEARCH CENTER

ANASTASIA L THATCHER
INDEPENDENT CONSULTANT

More than 30 years ago, one of us (Jordan) carried out ethno-obstetric studies of childbirth in different regions of the world, producing the book *Birth in Four Cultures*, now in its fourth edition. A key issue that emerged through that research is still with us today: the question of the benefits of low versus high technology in the birth process. The second of us (Thatcher) is struggling to address that same question in her work with development organizations and their efforts to improve newborn and maternal health. Decades after the founding of ethno-obstetrics—a field that drew attention to the importance of community-based obstetric practices and knowledge—we are still asking to what extent and under what conditions cosmopolitan high-tech obstetric technologies and procedures contribute to the welfare of women and infants, and when and to what extent a low-tech approach, based in women's and communities' empirical knowledge and own resources, may produce better results.

Developing countries differ considerably in their histories, developmental resources and development plans. Nevertheless, they face a number of common difficulties as they attempt to “upgrade” their perinatal care delivery systems in the direction of Western biomedical practice. The first of these stems from the fact that the introduction of Western obstetrics never occurs in a vacuum, but confronts pre-existing indigenous ethno-obstetric systems that are already well adapted to local conditions. Such systems consist of an empirically grounded and often supernaturally sanctioned repertoire of prac-

tices and a network of established practitioners who subscribe to a body of beliefs about the nature of birth that they share with child-bearing women (and often men) in the communities they serve. Common knowledge within such systems includes ideas about when pregnancy and labor become problematic, what methods are to be chosen for resolving problems, and who is in charge of making decisions—notions that are not necessarily shared by the Western or Western-trained health care personnel who provide cosmopolitan obstetric services.

For decades, the World Health Organization, national ministries of health and philanthropic organizations have been engaged in the “upgrading” of perinatal services in developing regions. These efforts include the importation of high-tech obstetric technology and of technology-dependent obstetric procedures such as hospital deliveries, pharmacologically managed labors, the use of ultrasound and electronic fetal monitoring, induction of labor, instrumental and surgical delivery, and the care of premature and sick infants in intensive care units. Yet,

after all these years, maternal and neonatal mortality and morbidity rates are still unconscionably high, in part due to negative consequences of an overzealously applied biomedical approach.

There is no doubt that surgery and pharmacology can save lives—that is not an issue here. There will always be cases where a cesarean section saves the life of mother and baby. But do 30% or 60% of births have to end in C-sections, as is the case in countries like

Traditional Technologies and Practices

The World Health Organization, 30 years ago, defined technology as “an association of methods, techniques, and equipment, together with the people using them.” Birth tools referred to as “low technology” have consisted of simple artifacts familiar from everyday life, such as a hammock for giving birth, herbs and foods that provide nutrition and relaxation, and empirically-based practices such as external

COMMENTARY

Costa Rica, Brazil and China? It is clear that cosmopolitan facilities and technologies will lower some kinds of mortality and morbidity, but their importation often also has unforeseen and unassessed negative effects. Beyond that, the replacement of traditional low-tech birth practices raises fundamental questions about transformations in the nature of knowledge about the birth process, which in turn affect the distribution of decision-making power and the ability of women and communities to control their health care.

cephalic version to turn a breech baby around (in preference to a C-section) or cauterizing the umbilical stump of a newborn with the flame of a candle (to prevent neonatal tetanus when Western antibiotics and antiseptics aren't available). Such spiritually- or empirically-based knowledge about the processes of labor and birth provides women with emotional and physical support throughout the perinatal period through artifacts that promote mobility, position changes as labor progresses, and the assistance of trusted birth attendants.

In general, women in developing countries (at least until Western medicine dictates otherwise) labor and give birth in upright or semi-upright positions, such as sitting, squatting, half-reclining, kneeling or standing—often using several of these positions in sequence. The combination of upright posture with frequent position changes and the assumption of asymmetrical positions facilitate the mechanism of labor that affects the passage of the baby's body through the birth canal. The physiological and psychological advantages of upright positions are well known and include better oxygenation, more efficient contractions, less pain and an increase in the diameter of the pelvic outlet.



Happy couple in Yucatán, México, photographed by Brigitte Jordan in the 1970s. Photo courtesy Brigitte Jordan and Waveland Press

See *Perinatal Care* on page 6

Perinatal Care

continued from page 5

Not surprisingly, complications such as changes in fetal heart rate or dystocia can frequently be remedied by changes in position. Many hospital artifacts, such as delivery tables, discourage such physiologically beneficial adjustments. Unfortunately, this type of traditional knowledge and technology is increasingly being replaced (rather than augmented) by biomedical cosmopolitan obstetrics.

The Bias Toward Upscaling

Years of research comparing birth practices in low- and high-tech settings in developing and industrialized countries have shown that when different levels of technology are available in the same environment, the solution to problems that arise on one level is almost always sought through more rather than less invasive technologies (ie, on a higher-tech rather than lower-tech level). Where cosmopolitan facilities are available in developing countries, it is never the case that women are referred to the low-technology sector. This tends to hold even if a low-tech solution is locally available and easily accessible, such as walking and resting when labor slows down in preference to oxytocin injections, or mother-baby co-sleeping for premature newborns in preference to incubators.

This pervasive bias for upscaling to higher technology has sometimes been called Jordan's Law. It may well be that it is a property of technological systems in general. The reasons for this bias to upscale are many, ranging from the fact that low-tech and high-tech artifacts have

different diffusion paths, to the power and sense of superiority that cosmopolitan biomedicine (as authoritative knowledge) has claimed throughout the world, which is supported by ideologies promoting "modernization" and "progress."

In the developed world, there has been some reaction to the routine use of high-tech practices, visible in the rise of natural birth movements and the increasing availability and visibility of midwife-managed birth centers that rely on low-tech methods first. By contrast, referral networks in developing countries are typically set up for a one-way flow of "patients" from low-tech to high-tech facilities, and training is focused on transferring high-tech obstetric practices unilaterally to indigenous obstetric experts. What is missing is a reciprocal incorporation of low-tech practices and indigenous birthing knowledge into the training of biomedically oriented birth attendants. This would mean taking seriously the wisdom embedded in empirical knowledge systems. It would mean appreciating, for example, the potential of mobility-supporting techniques and midwife-based knowledge of massage and manual manipulation, and incorporating those in the training of cosmopolitan health care



Q Mphepi and other Kangaroo Mother Care (KMC) mothers receive training in proper KMC technique from a health worker in the Bwailai KMC Nursery.

Photo courtesy Save the Children

providers who work in regions of the world where local birth cultures are strong and have much empirical knowledge to offer.

This approach would ask for a different kind of research from anthropologists because it would move beyond investigating what happens if biomedical technologies are applied to underserved populations, and instead ask researchers to examine why and in what ways local obstetric practices persist. In our thinking, the emphasis needs to move from designing global interventions to understanding the local conditions under which particular

practices are useful or not. A consequence would be that biomedically trained care personnel might be taught to understand the benefits and drawbacks of local knowledge systems as indigenous care providers learn about the benefits and drawbacks of biomedical systems. In line with this thinking and publications such as Robbie Davis-Floyd and Carolyn Sargent's *Childbirth and Authoritative Knowledge* (1997), anthropologists should propose research that reverses the unidirectional flow of training and knowledge from high to low technology in order to overcome the power imbalance between cosmopolitan obstetrics and low-tech perinatal care. This could finally lead to a true partnership between two ethnobstetric systems, both of which have much to contribute to the welfare of mothers and babies.

Brigitte Jordan carried out cross-cultural research on childbirth for almost two decades. She is a past recipient of the AAA's Margaret Mead Award and author of *Birth in Four Cultures*, now in its fourth edition. Though her website now focuses on recent publications in corporate anthropology, many of her writings on childbirth, midwifery, and maternal and child health can be found at www.lifescapes.org. She can be contacted at gitti.jordan@gmail.com.

Anastasia L Thatcher is a business strategist consulting for not-for-profit and for-profit organizations within healthcare and international development. Her work has spanned four continents, focusing on challenges in both the developed and developing world. Currently she is working to build a cross-sector effort to tackle issues of quality and access within children's and maternal healthcare. She can be contacted at a.l.thatcher@gmail.com. ☐