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"Safety" In Childbirth:

What Does This Mean? What Is "Safe" Enough?

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January 2009 (updated 10-13-2011)

The American College of Obstetricians and Gynecologists claims that the hospital is the safest place for all women to give birth, and that home birth is irresponsible and dangerous, but without providing any evidence to support their opinion (see *ACOG Statement on Home Births* http://www.cfmidwifery.org/pdf/ACOGPRnr0206082cfm.pdf). If a woman does not have any serious health problems, what does she need to know and consider regarding what is "safe" for childbirth? This article explores issues to consider, many of which rarely come up in discussions about safety.

Often, when examining "safety" with regard to hospital birth versus home birth, the only benchmark considered is survival of the newborn. While this is certainly an important measure of safety, it is only ONE measure of safety. Other outcomes are also vitally important, including survival of the mother and ensuring that both mother and baby emerge from the birth as healthy and whole as possible. By most measures, with 99% of births taking place in hospitals, the US has poor and deteriorating outcomes compared to other developed countries. (see "State of American Childbirth" http://cfmidwifery.org/pdf/StateMatCare2005CfM.pdf.)

Infant and Perinatal Mortality

Infant mortality, which includes infant deaths up to one year after birth, is affected by many factors unrelated to place of birth (such as nutrition, lifestyle, income, stress), so this is not a very good measure when comparing the safety of birth in different settings (home, birth center, hospital). Perinatal mortality (fetal death after 20 weeks of gestation plus infant death up to 28 days of age) is far more relevant to this discussion, since the quality of prenatal care and effectiveness or harm of birth practices can contribute to this outcome. It is important to be very clear about exactly what measure of mortality is being used when anyone is making claims about "safety" and whether or not place of birth could even be related to mortality.

In fact, when comparing outcomes for home and hospital births, studies consistently show that for planned home births for healthy women attended by a trained care provider, and excluding causes of death that are unrelated to the place of birth (such as genetic defects incompatible with life, for example), home and hospital have similar perinatal mortality rates for populations of mothers who are "low risk". So by that standard, planned home births and hospital births are equally safe for babies of healthy mothers. The most recent study, on the home birth outcomes for Certified Professional Midwives, was published in the *British Medical Journal*, a prospective study of more than 5000 home births with Certified Professional Midwives in North America. (Summary fact sheet http://www.cfmidwifery.org/pdf/CPM2000.pdf; authors' website with link to the study and additional information http://understandingbirthbetter.com)

Maternal Mortality

Maternal mortality can be difficult to track, largely due to issues surrounding definitions and to the fact that maternal deaths related to pregnancy and childbirth can happen days, weeks, or even months after the birth. Furthermore, the US does not have a uniform or mandatory system for reporting or investigating maternal deaths, and the CDC feels such deaths are significantly under-reported. Recent studies have found that though overall rates are low, maternal death occurs 2 to 4 times more frequently with cesarean section than with vaginal birth (for example, Harper et al, Pregnancy-Related Death and Health Care Services JCOG 2003 Vol. 2 No. 102 Pages 273-278). Fewer than 5% of planned, midwife-attended home births end in cesarean, while the average

rate of cesarean for all hospital births is now over 30% (National Vital Statistics "Births: Final Data for 2006" http://www.cdc.gov/nchs/data/nvsr/nvsr57/nvsr57_07.pdf) and, as of 2000, around 20% for women who were "low risk" when they entered the hospital (see "Out-of-Hospital Midwifery Care: Much Lower Rates of Cesarean Sections for Low-Risk Women" http://www.cfmidwifery.org/pdf/cesarean2x.pdf). There is good evidence that overall cesarean rates should be about 15% -- rates above and below 15% result in worse outcomes for mothers and babies. Because cesareans are major abdominal surgeries that carry an array of health risks and consequences, we can say that planned home birth is generally safer for healthy mothers than hospital birth.

Continuity of Care and Birth Practices

While multiple factors also influence perinatal mortality, the quality, continuity and thoroughness of prenatal care, along with specific birth practices, can play significant roles in this outcome. Typically, home birth midwives provide much more intensive and individualized prenatal care, with each appointment averaging 40 minutes or more and including extensive education of clients and families in addition to monitoring the mothers health and growth of the fetus. With continuity of care (the same midwife seeing the same woman throughout the pregnancy and birth) and their experience with normal, healthy birth, home birth midwives are more likely to notice the earliest signs of any possible problems, many of which can be addressed with preventive care. Also, home birth midwives tend to use and recommend interventions thoughtfully, considering the risks of the intervention carefully and encouraging the families in their practice to take an active role in decision-making in their care. The result is that many interventions considered routine in mainstream obstetrical care are viewed as optional and are rarely used.

In contrast, prenatal care from obstetricians typically involves brief visits and multiple staff, and hospital-based births usually involve fragmented care (rotating staff and specialists) where a nurse or doctor may have never met the woman before, along with a multitude of "routine," one size fits all practices, protocols and interventions. Most of these primarily help the hospital run efficiently and/or satisfy legal concerns, but do not improve the health and well-being of mother or baby. These practices and interventions disturb the process of labor and often cause complications, leading to a cascade of additional interventions and complications, harming both the mother and the baby. In other words, typical hospital birth practices, most of which are not evidence-based, make birth more dangerous for mothers and babies. The recently published study *Evidence-Based Maternity Care: What It Is and What It Can Achieve* (http://www.milbank.org/reports/0809MaternityCare/0809MaternityCare.html) documents the effects of various birth practices on mothers and babies.

Morbidity

Other important components of "safety" include both maternal and infant morbidity (injury or illness associated with the birth). Morbidity for the baby can include everything from bruising or lacerations from operative deliveries (cesarean section, forceps or vacuum extraction), to breathing difficulties due to drugs or pulmonary immaturity, to infection from exposure to hospital germs, and all the complications related to late preterm birth from elective inductions and cesareans. For the mother morbidity can include fever, infection, drug reactions, surgical incisions from cesarean section, and lacerations of the perineum (from tearing or episiotomy a surgical cut to the perineum), although some medical authorities do not consider surgical incisions for episiotomies morbidity unless they result in other complications. Drugs used in labor (to induce and/or speed up labor, and for pain) can cause a range of complications for both mother and baby, and routine birth practices can also result in breastfeeding difficulties, although these effects are not always considered to be morbidity.

When birth is experienced as traumatic by the mother, a problem that has increased with higher rates of interventions, the result can be depression, post traumatic stress disorder or psychosis. However, these psychological effects are rarely considered morbidity, even though they can have serious negative effects on the mother and baby. For more information, see ICAN's Cesarean Fact Sheet (http://www.ican-online.org/pregnancy/cesarean-fact-sheet) and "What Every Pregnant Woman Needs To Know About Cesarean Section (2006)" (http://www.childbirthconnection.org/article.asp?ClickedLink=279&ck=10164&area=27).

A recent study indicated that over 40% of women experience some level of morbidity related to childbirth. The *New Mothers Speak Out* report (from Childbirth Connection, 2008,

http://www.childbirthconnection.org/pdf.asp?PDFDownload=new-mothers-speak-out) indicates that 25% of respondents reported new health problems in the first two months after birth, and many of those problems continued for six months or more. In addition, 44% of all mothers reported physical or emotional impairment, and about one-third reported that postpartum physical health or emotional health interfered with caring for their babies. Nearly all of the mothers who participated in this survey gave birth in hospitals.

Long Term "Safety"

Finally, discussion about safety rarely includes consideration of long term effects or impacts on future pregnancies. For example:

- Episiotomies (cutting the vaginal opening to make it larger) and serious tears (usually the result of an episiotomy), anesthesia injuries, and cesarean sections can cause long term pain for many women.
- Cesarean sections are associated with increased risks of secondary infertility, future ectopic pregnancy, miscarriage, and stillbirth -- clearly unsafe for the fetuses and babies involved. Scarring can cause painful and even dangerous intestinal adhesions. Multiple cesareans can lead to life-threatening complications in subsequent pregnancies.
- Mismanagement of shoulder dystocia and malpresentations can result in long-term and sometimes permanent injury of the newborn.
- Recent studies show increasing evidence that the growing phenomenon of scheduled births (either by elective induction or cesarean) is leading to an epidemic of prematurity, and that even late preterm births can cause lifelong cognitive and respiratory disorders for the baby.

Women who have planned midwife-attended home births are rarely transferred to medical care for induction or cesarean section, with rates about one-tenth those of hospital births for healthy "low risk" women.

Risk and Birth Practices

Ultimately, we are talking about "risks" for the baby and for the mother. The medical community likes to classify women as "low risk" or "high risk". Here is what a family practice physician who works with home birth midwives says: "Risk is a judgement. It's about fear. When we say 'low risk' the mind hears 'risk' and goes to 'danger'. And in the worldview of risk, all women are in danger, just some more than others. 'Risk' sounds like something only an expert on the hill can know about." (Elizabeth Allemann, MD, personal communication, Jan. 2009.)

Risks are established in terms of the average likelihood of an adverse event occurring in a population. No one can predict with certainty which specific individuals in a given population will suffer the adverse event. Furthermore, each woman is an individual, and is not necessarily "average". Many factors (such as nutrition, smoking, level of fitness, genetics) may affect the likelihood of particular adverse events, but may not have been controlled for in any study. If a woman eats a healthy diet, exercises, and doesn't smoke, and if she has no drugs during labor, she and her baby may be at much lower risk than the average population for any number of possible complications.

In addition, the risks for many adverse events are affected by specific birth practices. Here are just a few examples:

- If a woman lies on her back during labor and birth (most are told to, and 70% give birth this way), she is more likely to have slow labor, a baby showing signs of distress, difficulty pushing the baby out, and perineal lacerations from tearing, than if she can be upright and moving around.
- Induction with drugs and rupture of the amniotic sac increases the risk of having the cord prolapse (a life-threatening complication for the baby), of having the baby in a less than optimal position in the birth canal (often leading to a cesarean section), and of having a premature baby with respiratory problems because the lungs are not mature.

- The common use of drugs (pitocin, for example) to speed up labor is associated with greater likelihood of the baby being distressed, and increases the chance of uterine rupture (which can be life-threatening to mother and baby).

Complications are more likely to happen when these birth practices are used than when they are avoided. In home births, labor starts on its own, proceeds at its own pace, and the mothers are free to move and be in any position during labor and pushing; midwives find that women instinctively move in ways that help the baby move through the birth canal.

Is the Hospital Safer?

Many people believe that the hospital is "safer" because they are in the medical environment and feel reassured that medical "rescue" is immediately available should it be needed. Yet the 99% of women who give birth in hospitals in the US experience high levels of medical intervention that research tells us is unnecessary and can be harmful to both mother and baby. Woman have reported that it is almost impossible to give birth in the hospital without interference in the normal process of labor and without hospital practices and routine interventions that actually increase the likelihood of complications (see Childbirth Connection's *Listening to Mothers* surveys http://www.childbirthconnection.org/article.asp?ClickedLink=334&ck=10068&area=27).

Indeed, research shows that where and with whom a woman gives birth is a significant and independent risk factor in whether she experiences increased rates of medical intervention, in particular an episiotomy or a cesarean section. For medical interventions there are actually very wide variations among hospitals and among providers, not explained by medical status of the patient population, although such information is not available to women about specific hospitals or providers. In contrast, a planned birth attended by a trained care-provider in an out-of-hospital setting (home or birth center) results in support for the normal process with a minimum of interference. The midwife is trained to notice signs of complications developing and can assess the need to transport for medical care well in advance, in the rare cases where it is needed. Serious complications almost never occur without some preceding signs that there is a problem. The scientific studies all show that for planned home births with a trained attendant (and access to medical care if needed), perinatal mortality is as good or possibly better than for birth in the hospital, and that there are far fewer interventions and so less morbidity for both mothers and babies.

Risks: What You Need to Know

Finally, if someone is judged as being "at risk" (high or low), it is important to know more. At risk for what specific adverse event? What can be done to mitigate the risk (preventive care)? Just how serious is the risk (both the frequency at which it is believed to occur, and the seriousness of the adverse event should it occur)? What are the risks of the proposed intervention(s)? What are the alternatives (including doing nothing)? What is the evidence? This is information that should be part of informed consent for any test or procedure, but is rarely if ever provided. Only when all of this information is known can anyone begin to make a rational judgement about "safety" with regard to place of birth and care provider.

Conclusion

No one can guarantee that a specific individual will give birth in complete "safety" in any setting. All any woman can do is ask questions of her care provider, read the scientific evidence, understand the range of risks associated with the choices available, and decide what she thinks is best for her, her baby, and her family. There are some risks no matter where birth takes place. However, the notion that the hospital is the "safest" place for all women to give birth simply is not supported by any credible scientific evidence.