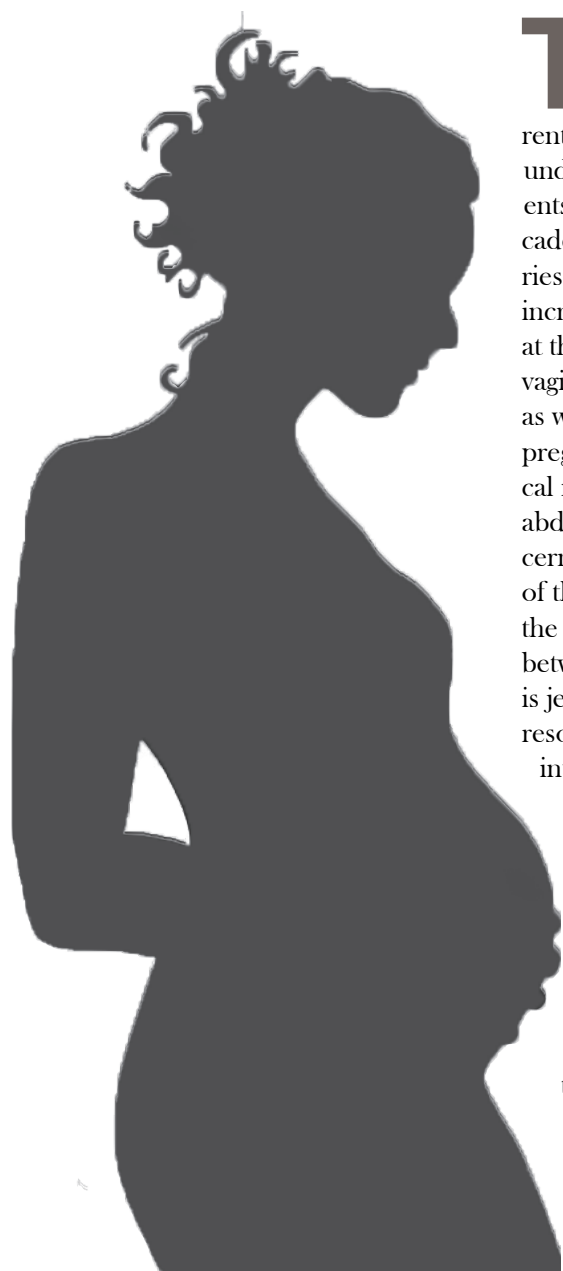


Natural

CAESAREAN: AN OXYMORON

BY OMAR MESINA



The United States has seen a dramatic increase in rates of cesarean sections in the past decade. Currently, around 32% of expecting mothers undergo cesarean sections, which presents over a 50% increase in the past decade (1). There have been multiple theories presented to explain this shift: an increase in cesarean sections performed at the mother's request, a decrease in vaginal births after a cesarean delivery, as well as an increase in the number of pregnant women that are of high medical risk and are viable candidates for the abdominal surgery (1). One of the concerning issues that arises as a direct effect of this increase in cesarean rates is that the immediate skin-to-skin contact (SSC) between infant and mother postpartum is jeopardized. Countless studies have resolutely proven that early mother-infant interaction confers positive outcomes for both infant and mother both immediately following birth and in the long-term (2, 3). Medical professionals, researchers and other health providers involved in the birthing process, such as midwives and doulas, worry that inhibiting early mother-infant interactions through heavy medical interventions pregnant women are submitted to, interferes with the natural progression of bringing a human into life. In light of the high rates of cesarean

sections in the US, subsets of medical professionals are opting to adopt a more "natural" mode to cesarean sections that integrates early SSC that normally occurs in vaginal births (4).

IMPORTANCE OF EARLY MOTHER-INFANT SKIN-TO-SKIN CONTACT

Various studies have suggested the importance of promoting early SSC between mother and infant. Because of the advances in the field of neurobiology, the biological and physiological bonds between mother and infant have been more closely understood on the level of hormonal and cellular mechanisms (3). The hormone oxytocin, for example, promotes uterine contractions during labor but is also responsible for breast milk letdown and for inducing maternal-infant bonding (3). This effect has been observed across different species (5). For example, newborn rats who receive extra sensory stimulation by their mother, such as intense licking or extra brushing increases the amount of oxytocin receptors in the amygdala, a part of the brain responsible for emotional reactions. This in turn is accompanied by a decreased release of cortisol in response to stress, which leads to a decrease in anxiety (6). These pups are less anxious, more social and less stressed compared to other pups that do not receive any additional sensory stimulation (3).

Since the 1980s, studies have demonstrated that infants allowed to have close SSC with their mothers for 15 to 60 minutes after birth had improved mother-infant interaction on the immediate days following birth as well as long term. Newborns are more than capable of latching on to the mother's nipple without assistance within the first hour postpartum (2, 7). Infants in close SSC tended to search for the mother's breast find it and suckle on it more easily than infants who were separated from the mother momentarily after birth. Positive effects of close SSC last even one to three months after birth: the baby smiled and laughed more and cried less (2, 3). Other natural effects of early SSC, like regulation of the infant's body temperature and respiration, as well as conservation of energy, were also observed (8). The Academy of Pediatrics (AAP) has recommended that healthy newborns be placed in close SSC with mother until after the first breastfeeding, however common hospital-based practices prevent the mother and infant from consummating this experience early on (9).

BARRIERS FOR ADEQUATE MOTHER-INFANT INTERACTIONS

Despite the plethora of data indicating the benefits conferred from having early mother-infant contact postpartum, common practices in hospitals still actively intervene in the early mother-infant SSC (3). To comprehend the dynamic of some of these barriers it is important to understand the childbearing experiences of women. Even though most pregnant women are healthy and can expect normal, uncomplicated childbirths, medical interventions that are heavily technology-driven are very common for most of these women (10). Interventions such as fetal monitoring, intravenous drips, epidurals, and urinary catheters are customary among pregnant women birthing at a hospital (10). Additional medical interventions include inducing birth using synthetic oxytocin (known as pitocin), artificially rupturing

the amniotic sac, using narcotics to dull pain, and facilitating birth with a cesarean section or an episiotomy (10). Even though most women are on track to experience an uncomplicated delivery, a striking 32% of the pregnant women in the United States are giving birth via cesarean section.

One of the major concerns that come with having an invasive abdominal surgery such as a cesarean section is the lack of immediate mother infant SSC that occurs. For the first hour after birth most babies are not in their mothers' arms and for the remainder of their stay in the hospital both the mother and infant are usually in separate room locations (10). This blatant separation largely inhibits the mother's ability to breastfeed. Eugene Declercq, Professor of Maternal and Child Health at Boston University School of Public Health, posits that the current practice in childbirth is not all appropriate and does not reflect evidence-based practices nor do the practices currently employed support for women's "intrinsic capacity for physiologic childbirth" (10). Many expecting mothers are submitted to interventions that are appropriate for pregnant women in a specific risk condition but not for women expecting uncomplicated births (10).

A SHIFT TO A MODERN "NATURAL" BIRTH.

Although there has been a more determined effort to promote the early SSC between mother and infant, cesarean sections are still very commonplace in maternity wards. Thus, in an effort to maintain as much of the early SSC between mother and infant, there have been recent concerted efforts to change some of the routine cesarean section procedures (4). This process, coined as the natural cesarean, involves a shift in techniques performed during surgery. For example, while on the surgical bed, the pulse oximeter is positioned on the mother's foot to keep her hands free, the intravenous line is placed in the non-dominant arm while the electro-

cardiogram (ECG) leads are kept away from the mother's chest where the baby will be placed immediately after birth (4). During surgery, the sterile screen shielding the mother's vision from her abdominal area is lowered to enable the mother to watch the birth. Once the fetal head enters the abdominal incision, the operative field is cleaned of blood and the partner is invited to step closer to observe the birth as well (4). A staple of this natural cesarean is the delay in the exit of the fetus from the abdominal area. The delay allows for pressure from the uterus and maternal tissues to expel the fetal lung liquid, mimicking what happens in vaginal delivery. The rest of birthing process is achieved by a combination of the contracting uterus and the baby's own physical exertion to exit (4). The additional 2-3 minutes spent in delivery enables the mother to watch her birth, thus mimicking the situation that occurs in vaginal birth. Upon birth, clothing from the mother's chest is removed and the baby is laid directly between the mother's breasts while at the same time being dried and kept warm (4). The cord is then clamped and cut and the baby is positioned so it can begin to suckle with the only interruption to mother-infant interaction occurring when the surgery is finished and the baby is weighed (4). WHO and UNICEF advocate that newborns should have SSC and breastfeed within 30 minutes of birth (4). Therefore, this procedure provides a stark contrast to the commonplace practice in hospitals of taking the newborn to an incubator where it is examined, cleaned, weighed, and swaddled with clean sheets before returning to its parents usually well after the 30 minutes.

BEST OF BOTH WORLDS.

Cesarean section rates are on the rise worldwide and the current routine procedures practiced at many hospitals largely inhibit proper SSC between mother and infant. The positive effects of early SSC and the positive implications it has for early breastfeeding of

infants have been largely corroborated in multiple studies. Thus, an alternative to the current child birthing practice is of great importance. A multidisciplinary approach of educating medical personnel and expecting parents will inevitably express the importance for a shift in practice to prioritize early SSC in the modern hospital setting and bring about the change necessary to naturalize what is seemingly unnatural.

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Figure 1: Over the past few years, there has been a greater and greater shift towards Caesarian section births involving major surgery, as shown here. *Photo courtesy of Wikimedia Commons.*