



Some Aspects of Prenatal Parenting by Thomas R. Verney

Many people think of birth as marking the beginning of a person's life. To them a baby is not alive until he takes his first breath and utters his first cry. If you stop to think about it, you quickly realize how false this popular notion really is.

We need to understand that one hour, one day or several weeks prior to birth, a child is not significantly different mentally from what she is at birth. The mental apparatus of a baby is not suddenly thrown into gear with birth. All the complex tasks associated with living outside the womb—like breathing, sucking, swallowing, touching, smelling, looking, listening—are the end result of mental work begun long before birth.

Prenatal Mental Development

We know that by the fourth month after conception, the fetus will suck if his lips are stroked. If a bitter substance like iodine is introduced into the amniotic fluid, he will grimace and stop swallowing liquid. At the same age, if a bright light is shone on the mother's abdomen, the baby will gradually move his tiny hands up towards his eyes, shielding them. At five months, if a loud sound is made next to the mother, the unborn child will raise his hands and cover his ears. By the sixth month, the hearing system of the baby is perfectly developed. Because water is a better conductor of sound than air, the baby in the womb can hear very well, although with distortions.

Recordings of the baby's brain waves at the beginning of the last trimester demonstrate that during sleep the baby exhibits REM (Rapid Eye Movement) motions. In adults REM sleep is almost always associated with dreaming. It follows, therefore, that babies must be dreaming by the seventh month. Studies of expectant mothers show a correlation between their feelings about their pregnancies and the ease of their labor and delivery. The health of their newborn infants is also connected to their attitudes towards pregnancy.

Because the unborn child is a feeling, sensing, aware and remembering being from the sixth month after conception (if not before) and because of the intimate connection between her and her mother, everything that happens to the mother also, in a sense, happens to her baby. Extensive studies leave no doubt that interaction between mother, father and the unborn, with all the consequences that has for personality development, begins well before birth.

Fetal Perception and Memory

Anthony DeCasper, professor of psychology at the University of North Carolina, has been researching fetal perception and memory for the past ten years. DeCasper has demonstrated that newborns can pick out their mothers' voices from among other female voices (DeCasper and Fifer 1980). Infants were tested with a non-nutritive nipple, hooked up to a tape recorder, to see if they preferred listening to a taped maternal heartbeat and a taped male voice. (By changing the

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rhythm of their sucking, the babies could switch the taped sounds.) The majority of babies favored a tape recording of the heartbeat (Kolata 1984).

A group of pregnant women was asked to tape record their reading of two different children's stories. During the last six and one half weeks of their pregnancy, half of the group was asked to read story "A" twice a day, the other half story "B". When their babies were born, the researchers offered the infants a choice between the two stories. Within a few hours after birth, eleven of the twelve newborns adjusted their sucking rhythm to hear the familiar story as opposed to the new one. This data provides the first direct evidence that not only does the newborn hear and recognize his mother's voice but also, surprisingly, remembers the words!

What does this research mean for expectant parents? Simply this: they should talk to their unborn baby as much as possible, whenever they feel like it, in a soft voice. Partners and other members of the family can join in since what they say is not so important as how they say it. They should feel free to read children's stories, nursery rhymes or poems, avoiding violent subject and overly dramatic readings. After the birth of their child, they can experiment to see if their newborn, like those in the study, prefer the familiar tale to a story never before heard.

Prenatal Touch

By the seventh week after conception, the baby responds to tactile stimulation. At twelve weeks he can kick, turn his feet and curl his toes. At sixteen weeks he begins to suck his thumb. This sense of touch is necessary to the well-being of the baby. He uses it to explore his aquatic universe as well as to comfort himself. Thus, thumb-sucking not only calms the baby but also helps him develop coordination and strengthen jaw and cheek muscles.

Like all living beings, babies like to be touched. Expectant parents can discover this for themselves after their baby grows big enough for mom to feel her kicks. At this point, by stroking the abdomen gently from underneath the naval, moms will quickly observe that their baby will stop kicking and relax.

By about the seventh month of pregnancy, the expectant mother will know the positions of her baby's head and feet. She can be encouraged to stroke firmly and repetitively from baby's head toward her toes, which is thought to accelerate the development of the baby's peripheral nervous system. More importantly, this massage helps the pregnant woman (and her partner) to make contact with the baby, enhancing the baby's feeling of being loved.

Music in the Womb

Mothers have known about the effect of music on unborn children for generations. Scientists, however, are just beginning to discover it. Experiments with animals and human fetuses have clearly shown that sound is transmitted through body walls and amniotic fluid with about a thirty decibel loss in intensity (Armitage, Baldwin and Vince 1980; Bench, Anderson and Hoare 1970; Bernard and Sontag 1947). Human infants respond to sound by six months after conception, because babies move in rhythm to the music and their pulse rates react.

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Hundreds of women have told me about their experiences with music during pregnancy. The one common denominator to these accounts is that the songs played prenatally provoked a very positive reaction in their babies after birth. The familiar music seemed to capture the attention of the infants and relax them, particularly when they were cranky, over tired or feverish.

Donald Shetler, professor of music education at the University of Rochester, has been studying the effect of music during pregnancy on infant development. He has found that infants exposed to music while in the womb show a remarkable ability to imitate sound and respond to it after birth, in comparison to babies who have not had “prenatal musical stimulation” (Shetler 1985).

Pregnant woman can be encouraged to play music that they like during pregnancy, music that is calming rather than exciting. The only types of music that should be avoided are hard rock, acid rock, heavy metal, etc. Childbirth educators can urge expectant mothers to establish a daily routine of listening to music ten minutes or so twice a day, making sure they are sitting comfortably or reclining in pleasant surroundings. They will enjoy a number of benefits. First, by reserving two ten-minute periods for doing “nothing but listening to music,” they will have planned time for relaxation, enhancing the stress relief that good music brings. A second benefit is that it will stimulate the baby’s mind. Lastly and most importantly, the music serves as an emotional bridge between the mother and her unborn child. This occurs because while she listens to the music, the pregnant mother will try to “see” the baby and will accompany this picture with thoughts or spoken wishes for the health and well-being of her unborn child. With each day she will grow closer to her baby.

You can also recommend that the women play their tape of pregnancy music during labor to help them and their birth attendants relax. After the baby is born, they can continue to play the music to him when they want to calm him—at bedtime, for example.

Conclusion

In summary, the scientific evidence is now overwhelmingly in favor of and shows a new appreciation for the mental and emotional development of the unborn child. The evidence indicates that the unborn baby certainly, from the sixth month of intrauterine life on, is a sensing, feeling, aware and remembering human being. Consequently he or she is eager and in a rudimentary way quite capable of responding and benefiting from prenatal parenting communication.

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References

- Armitage, S.E., B.A. Baldwin and M.A. Vince. 1980. The fetal sound environment of sheep. *Science* 108(6):1171-1174.
- Bench, R.J., J.H. Anderson and M. Hoare. 1970. Measurement system for fetal audiometry. *Journal of the Acoustical Society of America* 47::1602-1606.
- Bernard, J. And L.W. Sontag. Fetal reactivity to tonal stimulation: a preliminary report. *Journal of Genetic Psychology* 70:205-210.
- DeCasper, A.J. and W.P. Fifer. 1980. Of human bonding: newborns prefer their mother's voices. *Science* 208(6 June):-1174-1176.
- Kolata, G. 184. Studying learning in the womb. *Science* 225(20 July):302-303.
- Shetler, D. 1985. Prenatal music experiences. *Music Education Journal* 71(7):26-27.

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