Microphones on Pregnant Bellies

Giselle E Whitwell, BC-MT
www.prenatalmusic.com

Babies in the womb are remarkably adept and ingenuous in communicating their discomfort when exposed to noxious or unwanted sounds. Research has provided examples of mothers leaving rock concerts or a zoo because the sound level was unbearable. There are also studies that have reported a variety of reactions of prenatal babies in the womb to different genres of music.[1]

A mother, eight months pregnant and who was quite musical herself, used to enjoy playing classical guitar most mornings for herself and for her unborn baby. She loved music and also participated in prenatal music sessions during a seven-month period. During her last month of pregnancy, she related the following experience shortly after it took place. She wanted extra time to provide attention to her three other children and therefore decided to simultaneously play additional music on her belly while playing with the siblings. She invested in a set of *bellyphones* also known as *bellybuds*, which are wearable speakers to be placed on the mother's abdomen. It can be plugged into any standard music playing device such as the mother's MP3 file of favorite music or a computer and allows for simultaneous listening. The mother became somewhat impatient when the device malfunctioned, the two little speakers kept falling off or became disconnected every time she placed them on her belly; yet she was determined to make it work. Finally, after several trials she succeeded in exposing her prenatal baby for two consecutive days with classical music for a few hours. She noticed that the baby was moving more than usual and to different places in her womb than when he normally responded to a musical stimulus, this made her feel quite uncomfortable. By the evening of the second day, the mother became very agitated and concerned as the baby's head had moved from a head down position to a head up position, making a 180-degree turn! Her husband, an engineer, suspected that the headphones on her belly had something to do with this as nothing else had changed in their routine. He noticed that the little microphones had magnets imbedded in them and thought that this might have had an impact. The experiment was immediately discontinued and within a span of twenty minutes the baby's head turned down again towards the pubis, to its original position! To accomplish this so promptly the mother talked to her baby as she had learned to do in her prenatal music classes. This example illustrates beautifully the effectiveness of having established a bond and learned how to communicate with the unborn baby during one's pregnancy and to understand how babies can respond immediately to the needs at hand. Furthermore, there is an additional and important lesson to be learned from this event.

Since the publication of the Mozart effect on children (2000) and the corresponding recordings, these *bellybud* and *bellyphone* devices have grown in popularity with the desire to have unborn babies listen to the music of Mozart in utero to raise their IQ. There has not been a longitudinal and thorough body of research to validate the use of these specially designed headphones for use on pregnant bellies. My own

[1] Giselle E. Whitwell, "The Importance of Prenatal Sound and Music," *Journal of Prenatal and Perinatal Psychology and Health,* (13 (3-4), 1999), 255-262.

work in prenatal music, decades of study, research and observation related to bonding and parenting pre, and perinatal babies have led me to discourage this particular practice for stimulating prenatal babies.

Prenatal babies in utero are as unique in their being as are adults, no two alike. This means that even though we have general guidelines from research about what the baby can tolerate in terms of volume of sound (decibels), each baby has his own temperament and sensitivity to sound already before birth regardless of what is generally acceptable. The baby's pleasure or displeasure is closely related to the mother's experiences of life and what she enjoys or dislikes in her environment. Therefore, the music that gives a mother pleasure will be transmitted to the baby transformed into molecules (hormones) of pleasure known as endorphins. It is the mother's own life experiences that begin to set a foundation for the baby's first experiences in the womb. She is the window that allows these experiences to be felt. Now when a baby in utero is exposed to ambient music such as through a microphone or headphones on the mother's belly, the experience is totally different than when it is bridged by the mother listening to it herself, because the mother's feelings are in resonance with the sound. Her emotions will be aroused, beauty is awakened, and these aesthetic qualities will also be felt by the baby in her womb. If, on the other hand, the mother is not involved in listening to the music around her, the baby will have no point of reference as to her feelings. He is left alone to interpret the exposure as a totally different emotional experience. If the sound happens to be noxious to the fetus as mentioned above, he will react quite strongly to let the mother know that he is uncomfortable or in pain. This situation is similar as when placing children in front of a TV to keep them occupied while we tend to other things and are not emotionally involved. By taking this action, we remove ourselves from a parenting role which we are given at conception but we do not always assume this early on in pregnancy. We need to evaluate and consider if this is the role we want to adopt, for without our participation we are renouncing our role as a parent and nurturing our children with the gift of our own conscious awareness.

Another rationale for consideration in using *bellybuds* on pregnant bellies has to do with the electromagnetic fields (EMF) around us. In our homes we are surrounded by EMF from all the appliances, hardware, computers, etc.; these electrical energies can disturb our health;[2] furthermore, our physical bodies also conduct electricity.[3] According to Gaetan Chevalier "all chemical or biochemical reactions are electrical in nature and so are susceptible to being disturbed by external electric and magnetic fields." [4] Bearing in mind this information regarding EMF radiation, we should consider whether placing these belly devices operating on batteries is in the best health interest of mother and child. This kind of energy may disrupt the natural energy field of the mother and hence her baby. This might be one reason babies may become more active and anxious when exposed to these devices as seen in the case mentioned above; to the best of my knowledge, no specific research has been undertaken in

[2] Clinton Ober, Stephen T. Sinatra and Martin Zucker, *Earthing* (Laguna Beach, CA: Basic Health Publications, Inc., 2010), 79.
[3] Ibid., 32
[4] Ibid., 235.

this regard. There are nevertheless several research studies and publications about the effect of EMF exposure in general during pregnancy, all indicating a negative effect on the unborn child. [5]

Ambient classical music listened to by the mother in her environment will be conveyed to her baby in utero. The pleasure she receives from it and the relaxation will be transmitted directly and likewise have similar effects on both. The difference in decibels of what the mother hears versus her baby in the womb is rather small, particularly during the last trimester of gestation.[6] However, the best way to expose a baby to sound and music in the womb is through our own voices, from the mother, father and siblings. Singing lullabies and love songs, chants, etc. bestow benefits too numerous to mention in this brief article, suffice to say that these may profoundly affect bonding, stimulation and relaxation of all those involved as well as providing support for natural labor and delivery. The amniotic water which surrounds the baby and the mother's bones, especially her pelvic cradle surrounding and holding her child, are excellent transmitters of sound. It is as if the baby receives a delightful sound massage, a unique pleasurable experience beyond our imagination.

[5] Li, De-Kun; Odouli, Roxana; Wi, Soora; Janevic, Teresa; Golditch, Ira; Bracken, T. Dan; Senior, Russell; Rankin, Richard; Iriye, Richard. (2002), "A Population-Based Prospective Cohort Study of Personal Exposure to Magnetic Fields during Pregnancy and the Risk of Miscarriage," *Epidemiology* (January 2002, Volume 13, Issue 1), 9-20.
Li, D; Neutra, RR, "Magnetic Fields and Miscarriage," *Epidemiology*, (13(2), 237-238.

[6] Satt, B. J. (1984). *An investigation into the acoustical induction of intra-uterine learning.* (Ph.D. Dissertation, California School of Professional Psychology, Los Angeles).