

# Biology of Music

When Dr Gita Arjun, director of Kalyani Hospital in Chennai, was asked to release a tape on vedic chants for the unborn, she was reluctant to do so as it was quite contrary to her Western, evidence-based medical thinking. She however decided to think in a broader perspective and is today studying the effects of these chants on the unborn child in a mother's womb, and believes that the harmony of music does indeed affect the foetus

Text: Nandini Murali

"The swishing of the waves on the seashore has a strange fascination for people. Have you met anyone who's not fascinated by the music of the waves? That's because it reminds us of the primordial world



Dr Gita Arjun with Sri Dixit, the Sanskrit scholar

Mantras are a microcosm of the perennial sound vibrations in the macro universe, which connect every cell. Hence, it is not mandatory for a person to understand what they mean. "Sounds can be understood and related at three levels: *shabda anusandhanam* (perceiving the vibrations of the sound), *artha anusandhanam* (perceiving the meaning of the sound), and *bhava anusandhanam* (perceiving the emotions/feelings of the sound). The chanting is based on a combination of four *swaras* or musical notes that form the basis of the *Rig Veda*, *Yajur Veda*, and *Atharva Veda*," explains Sri Tatwamasi Dixit

of prenatal existence inside the mother," remarks Dr Gita Arjun, Chennai-based obstetrician and gynaecologist, startling me with her extrapolation. Perhaps it is this rare ability to juxtapose apparent

paradoxes and contradictions into wholes that has led Dr Gita Arjun to venture into new frontiers of exploration and voyage in contemporary obstetric care.

Gita is also co-founder of the Chennai-based Ojas Foundation, a global Vedic health movement that advocates the Vedic path to healthy living. The foundation has recently released a CD, "Ojas for the expectant mother", which comprises specific mantras sifted from the Vedas that are believed to impact the unborn child at the physical, psychological, emotional, and spiritual levels.

"Ojas means life energy. The Sanskrit word "Vedas" means knowledge, which transcends religion and beliefs," explains the erudite Sri Tatwamasi Dixit, Vedic and Sanskrit scholar, and founder, Ojas Foundation. Dixit combines his Vedic scholarship with insights into Jungian philosophy and different forms of healing. He has integrated important features of these methods with Vedic science in healing therapy. "Basically, what we are trying to do is to transform the ancient Vedic mantras to align with the modern metaphor," explain Dixit and Dr Arjun.

Looking back at the circumstances that led to her association with Ojas Foundation, Dr Arjun reminisces, "I remember Sri Tatwamasi Dixit inviting me to release the CD. I declined the invitation because I had many misgivings, given my background as an allopath anchored firmly in Western medicine, and subscribing to its values, belief systems, and practise of evidence-based medicine, and my own non-traditional concepts of God and religion. Indeed, my only religion is medicine... However, subsequent

meetings and discussions with Dixit on the Vedic path to healthy living and my knowledge of Sanskrit touched a chord. I then began to explore and cull information on the impact of sounds on the unborn child."

Recent research studies provide sufficient evidence on the effect of structured sounds on the unborn child. "The ear is the first sensory organ to develop and the foetus responds to sounds from the twenty-fourth week of pregnancy. There are documented changes in the heart rate and breathing pattern of the foetus in response to sound stimulation," elaborates Gita. Research also suggests that prenatal exposure to specific structured sounds provides a head start for subsequent learning and behaviour. "There is evidence that such children start to speak earlier and have higher linguistic and mathematical aptitudes," she adds. The *Los Angeles Times*, in a feature on neurobiological research, remarked, "Undeniably, there is a biology of music".

According to Giselle Whitehall, a prenatal music therapy practitioner, "We now know that the foetus has its first language lessons in the womb. The inflections of the mother tongue are conveyed not only through speech but also, most importantly, through song. The singing voice has a richer frequency than speech. Babies born of deaf mothers miss these important first lessons in language development." Drawing an avian parallel, French pioneer Dr Alfred Tomatis has observed that songbirds hatched by silent foster mothers do not sing. "What the baby learns in utero are the intonational patterns of sound and the frequencies of a language in