



LACTATION INSIGHTS

WELCOME to the Summer, 2008 edition of Lactation Insights! This newsletter is written and published quarterly by Janet to support breastfeeding mothers and their families.

BREASTFEEDING TRIGGERS PULSES OF OXYTOCIN

When a baby breastfeeds, it triggers a flood of the hormone oxytocin that releases milk from the mammary gland and a feeling of love and trust in the mother that ensures that the baby's needs are met. This reflex has long puzzled researchers because it requires large surges of oxytocin to pull all this off.

Using a special computer model, researchers from China, France, Italy, and the United Kingdom recently said they now understand how it works. Their study, reported in the journal PLoS Computational Biology, suggests that breastfeeding not only taps the normal brain cells involved in secreting oxytocin, it also recruits dendrite (whose job is to create communication channels between brain cells) into secreting the hormone.

This increases communication between the neurons and creates a hub of oxytocin production that results in bursts of the hormone released at regular intervals.

“We knew that these pulses arise because, during suckling, oxytocin neurons fire together in dramatic synchronized bursts. But exactly how these bursts arise has been a major problem that has until now eluded explanation,” Jianfeng Feng of the University of Warwick in Coventry in the United Kingdom said in a statement. He said these findings could help explain other similar activities in the brain as well. The study can be found at

www.ploscompbiol.org/doi/pcbi.1000123.

UNDERSTANDING VITAMIN D NEEDS OF MOMS AND BABIES

Vitamin D is produced by the skin in response to exposure to ultraviolet radiation from natural sunlight. It is nearly impossible to get adequate amounts of Vitamin D from food alone. A woman would have to drink 10 large glasses of vitamin D-fortified milk each day just to get the minimum levels of vitamin D into her diet. Vitamin D is also found in eggs, organ meats, animal fat, cod liver oil and fish.

Sunlight exposure on our skin from UV-B rays is the **best** way to generate vitamin D in the body. Most of us do not have access to adequate sunlight year round. The next best way to obtain the necessary amount of vitamin D is through a natural supplement called vitamin D3. D3 is a natural form of vitamin D and is better absorbed than the synthetic form called vitamin D2.

Cynthia Good Mojab, MS, IBCLC, RLC has studied vitamin D needs in nursing mothers and babies. She says, “The amount of sunlight exposure needed to prevent vitamin D deficiency depends on such factors as skin pigmentation, latitude, degree of skin exposure, season, time of day, amount of pollution, degree of use of sunscreen, altitude, weather, the vitamin D status of the lactating mother, and the current status of vitamin D store in the infant's body.”

Sufficient levels of vitamin D are crucial for calcium absorption. There is more to building and maintaining healthy bones than just calcium. Good calcium absorption is essential for babies who are growing and building strong bones that will take them into adulthood. Good calcium absorption is also essential for women who want to keep the strong healthy bones they have.

How do you know if your vitamin D levels are sufficient? There is a blood test that you can ask your doctor about called “25-hydroxyvitamin D” which can tell you if you have an adequate amount of vitamin D. The results of this test may vary depending upon whether it is done in the summer months or the winter months. Optimal levels are between 50 and 60 ng/mL.

Does the nursing baby need vitamin D supplementation? As long as mom is not vitamin D deficient, her breastmilk will have the right amount of vitamin D. Babies were “designed” to get part of their vitamin D from breastmilk and the remainder from sun exposure. A 2004 study (Hollis & Wagner) determined that supplementing the mother with 2000 – 4000 IU of vitamin D per day safely increased mother’s and baby’s vitamin D status. In other words, when the mother’s vitamin D level increased, so did the level in her nursing baby.

It is not necessary to get sun exposure every single day, as the body stores vitamin D for future use. Studies have shown that children can store enough vitamin D to avoid deficiency for several months when they are exposed to only a few hours of summer sunlight each week. In adults, the skin produces approximately 20,000 IU vitamin D in response to 20-30 minutes of summer sun exposure (which is 100 times more than the US government’s recommendation of 200 IU per day in foods or supplements).

Unfortunately there is great debate in this country over sun exposure and the possible link

to skin cancer. Antioxidants like vitamin A, C, and E, along with supplements like green tea extract and aloe vera can help protect the skin against aging and sunburn. At no time should a mother or baby be exposed to the sun long enough to cause a severe sunburn. There should be enough sun exposure to create a nice “healthy” suntan (or pinkness of the skin) for both mom and baby in order to obtain an adequate store of vitamin D going into the colder months of the year. Unfortunately, using sunscreen blocks the beneficial rays of the sun which will not add to the stores of vitamin D in the body.

If you want to optimize your body’s store of vitamin D during the colder months of the year (or if you do not get adequate sun exposure during the summer), it is suggested that taking a vitamin D3 supplement will keep your bones strong and meet the needs of your growing baby. Nature’s Sunshine makes a vitamin D3 supplement that is perfect for nursing mothers who do not have adequate exposure to the UV-B rays from the sun during certain times of the year. Vitamin D3 is available from Lactation Innovation. Please call if you are interested in purchasing this supplement or learning more about it.

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