

More evidence that melatonin aids sleep

Japanese researchers report that the hormone melatonin, available as a supplement, can be useful in ameliorating sleep problems in developmentally disabled children.

One of the primary roles of melatonin, a hormone released by the pineal gland in the brain, is to induce drowsiness. The hormone is produced in far greater amounts during dark hours than during daylight hours.

A. Ishizaki and colleagues evaluated the effects of melatonin on 50 developmentally disabled children and young adults with sleep disorders, including 27 autistic subjects. Sleep problems included insomnia and irregular sleep-wake cycles.

"Thirty-nine of the insomnia patients and three of the circadian rhythm sleep disorder patients experienced improvement in response to melatonin," Ishizaki and colleagues report. However, they note that effects sometimes wore off with continual use of melatonin. The researchers report that minor side effects, including next-morning drowsiness, awakening in the middle of the night, or agitation before or after sleep, were seen in 17 of the subjects.

In a separate study, A. Miyamoto and colleagues studied the effects of melatonin on sleep in girls with Rett syndrome. The researchers initially studied the melatonin levels of their two subjects, and found that both exhibited abnormal patterns of melatonin secretion.

Miyamoto et al. gave 5 mg of melatonin at bedtime to the girls, and report that the hormone "dramatically improved the sleep-wake cycle" in one subject. The other subject also slept better, although she continued to awake early in the morning occasionally. When melatonin treatment was stopped, the two girls' sleep problems returned. Treatment was reinstated, this time at 3 mg per night,

with both girls again responding with improved sleep patterns—an improvement that has been maintained for two years.

"These findings suggest," Miyamoto et al. say, "that sleep disorders in patients with Rett syndrome may relate [to] an impaired secretion of melatonin."

Review: almost all studies positive

These two new studies add to a growing body of evidence indicating that melatonin treatment is beneficial for children with sleep disorders. Canadian researchers recently reviewed two dozen studies of melatonin's effects on sleep disorders in disabled and non-disabled individuals, and note that nearly all reported good results.

"The literature review and [our] experience show that establishment of normal sleep patterns dramatically changes the children as they soon become less irritable, calmer, happier, more playful, and more affectionate," James E. Jan and colleagues say. "Cognitive functioning, speed of learning, memory, and problem-solving abilities tend to improve." In addition, they say, many children become more sociable and exhibit less self-injurious behavior.

In a previous study, Jan and colleagues reported that melatonin, at doses of 2.5 to 10 mg, benefited more than 80 percent of 100 children (most of them disabled) with sleep disorders. The researchers caution, however, that "for successful melatonin treatment, clinical experience is required, and the influences of other health problems and medications need to be considered."

Jan and colleagues note that studies link melatonin treatment to improved health and growth rates. They also say that some children with epilepsy have fewer seizures while taking melatonin, but they warn that one study reported increased seizures (possibly due to interference with seizure drugs).

"Usefulness of melatonin for developmental sleep and emotional/behavior disorders—studies of melatonin trial on 50 patients with developmental disorders," A. Ishizaki, M. Sugama, and N. Takeuchi, *No To Hattatsu*, Vol. 31, No. 5, September 1999, pp. 428-437. Address: A. Ishizaki, Oji Clinic, Division of Medicine, Tokyo, Japan.

—and—

"Serum melatonin kinetics and long-term melatonin treatment for sleep disorders in Rett syndrome," A. Miyamoto, J. Oki, S. Takahashi, and A. Okuno, *Brain Development*, Vol. 21, No. 1, January 1999, pp. 59-92. Address: A. Miyamoto, Department of Pediatrics, Asahikawa Medical College, Hokkaido, Japan.

—and—

"Melatonin treatment of sleep-wake cycle disorders in children and adolescents," James E. Jan, Roger D. Freeman, and Diane K. Fast, *Developmental Medicine & Child Neurology*, Vol. 41, 1999, pp. 491-500. Address: James E. Jan, BC Children's Hospital, 4480 Oak Street, Vancouver, BC V6H 3V4, Canada.

LETTER TO THE EDITOR

Why only Applied Behavior Analysis?

To the Editor:

I have been a subscriber and supporter of the Autism Research Institute for many years; however, I continue to resent your 100% support of ABA with nothing said about other successful early intervention programs. I feel you are doing a disservice to parents and to programs like ours to suggest that all parents of children with autism should be doing ABA with their children. In your article, "The ABA Controversy," I had hoped you would mention other structured early intervention programs [but] was disappointed to read only of vitamins and magnesium used in addition to ABA.

The Westview School is a private school for children with autism and other pervasive developmental disorders. We start at age two and go through second grade and have four to five children in a class with a teacher and teacher's assistant. 50% to 60% of students leaving Westview go into regular classrooms each year.

I would be happy to give you more details of our program; however, please acknowledge that the key to successful outcomes for our children is structured early intervention, not just ABA.

Jane G. Stewart, Director
The Westview School, Houston, TX

Editor's Note: Ironically, not long before receiving this letter, our institute received a letter from another reader exhorting us for not writing enough about ABA!

In reality, as our name states, we are a research review, and our primary goal is to review documented research on educational or biomedical treatments. Thus, when research appears on ABA or other educational approaches, we publish it (see our recent article on TEACCH, ARRI 12/2).

Given the remarkable results you are achieving, I strongly suggest that you document your methods and results publicly. To date, we have not received any research papers reporting anything near a 50-60% recovery rate in children treated with educational approaches other than ABA. If the autistic children who leave your program are truly able to cope in regular school classes (rather than merely being "included" without any ability to participate fully), your accomplishments deserve recognition and your methods should be duplicated. We hope you will pursue this research, and we will be delighted to consider any studies you conduct.

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