

Irritable rule for breast-fed babies

The first few days of life can be somewhat paradoxical. Case in point: Breast-fed newborn babies appear to have stronger heart and breathing functions than bottle-fed peers, but they are also more likely to be irritable and in a state of emotional arousal.

This finding is even more curious, say Janet A. DiPietro of the University of Maryland in College Park and her colleagues, because previous studies have documented an association between early breast-feeding and improved performance on tests of behavior and intelligence up to age 5.

The researchers studied 61 breast-fed and 39 bottle-fed newborns an average of 37 hours after their birth at a midwestern hospital. Several measures of heart functioning and spontaneous breathing were enhanced among breast-fed newborns, report the investigators in the July *DEVELOPMENTAL PSYCHOLOGY*. Yet when a test of behaviors and reflexes was administered, the breast-fed babies were not only more irritable than the bottle-fed group, but were also more emotionally reactive, difficult to test and difficult to console if they started to cry. Fewer breast-fed infants were able to complete an examination of orientation responses to visual and auditory items, add the researchers, indicating that these babies had less opportunity for alert interactions with caregivers.

There is no evidence, they note, that breast-fed infants were hungrier than bottle-fed newborns, were nutritionally deprived or had mothers who were more anxious about caring for them. Formula may have a depressant effect on behavior, suggest the researchers, possibly by altering concentrations of amino acids in the brain. Mothers who breast-fed, they add, were receiving small amounts of acetaminophen and codeine that may also have affected their babies.

It is not known if the differences between breast-fed and bottle-fed babies are long-lasting, say the researchers, but irritability among breast-fed newborns should be considered the rule rather than the exception.

Psychiatric 'stretch' in the hospital

A visit to the hospital for medical treatment or surgery is no bed of roses, but chances are the visit will be considerably longer for patients who also have psychiatric disorders.

George Fulp of Mount Sinai School of Medicine in New York City and his colleagues analyzed discharge information on all medical and surgical patients hospitalized in 1984 at Mount Sinai Hospital and at Northwestern Memorial Hospital in Chicago. At both hospitals, the average length of stay of the patients who were also given psychiatric diagnoses was significantly longer than that of the other patients: nearly 20 days versus 9 days at Mount Sinai and almost 14 days versus 8 days at Northwestern Memorial. Psychiatric diagnoses covered a broad spectrum, including organic mental disorder, depression, manic-depression, psychosis, anxiety and substance abuse. Although it has been estimated that 30 to 50 percent of medical and surgical patients have secondary psychiatric disorders, only about 5 percent of the more than 59,000 patients in the study were classed as such.

Comprehensive studies beginning at admission to the hospital are being planned, report the investigators in the July *AMERICAN JOURNAL OF PSYCHIATRY*. In the meantime, they say that the early identification of medical and surgical patients with psychiatric disorders is critical; some of these patients can be transferred to psychiatric/medical units in the hospital.

Although many psychiatric disorders experienced during medical hospitalization are temporary, they often go undetected, say the researchers. Those that are diagnosed by primary physicians are in many cases undertreated or inappropriately treated.

Belligerent bug makes Korean debut

Neisseria gonorrhoeae, the sexually transmitted bacterium that causes gonorrhea, has pulled another fast one on the medical community. The bug has a history of developing resistance to antibiotics: against sulfonamides in the 1930s, against low-dose penicillin in the 1950s and '60s, and against high doses of penicillin, tetracycline and a number of other drugs in the 1970s. Now, after only three years of exposure to the current front-line antibiotic, spectinomycin, strains of spectinomycin-resistant *N. gonorrhoeae* are turning up among U.S. military personnel in Korea.

"The prevalence of spectinomycin-resistant strains . . . is alarming, particularly since it occurred over such a short period," report John W. Boslego and his colleagues in the July 30 *NEW ENGLAND JOURNAL OF MEDICINE*. Boslego's team, which includes researchers from the Walter Reed Army Institute of Research and the Children's Hospital National Medical Center in Washington, D.C., and the University of Maryland in College Park, calculates that the spectinomycin failure rate among U.S. servicemen in Korea may already exceed 11 percent. They warn that the increasing emergence of resistant strains "places our current armamentarium of simple, safe, effective and inexpensive antibiotics in further jeopardy."

Moreover, Boslego says, the problem will not stay on the other side of the world. Microbial resistance patterns in U.S. military personnel abroad often serve as bellwethers of pending microbiological trends at home. Next line of defense: a powerful new antibiotic called ceftriaxone.

Plant at the root of neural disorders

In the decade following World War II, neurological diseases became disturbingly common on the west Pacific islands of Guam and Rota. The prevalence of amyotrophic lateral sclerosis (ALS), or Lou Gehrig's disease, was up to 100 times higher among the Chamorro inhabitants of the islands than among the people living in developed countries. And the Chamorros suffered from parkinsonism and Alzheimer-type dementia too.

What caused the dramatic increase and then, after 1955, a steady decline in the incidence of neurological disorders on these islands has been the focus of some 40 years of study. In the July 31 *SCIENCE*, researchers at the Albert Einstein College of Medicine in Bronx, N.Y. and their French, British and German colleagues finger a possible culprit: an unusual amino acid found in the seeds of the false sago palm.

When the research team, led by Peter S. Spencer, fed macaques a synthesized version of this amino acid — beta-methylamino-L-alanine (BMAA) — the monkeys developed nervous system abnormalities and behavioral changes reminiscent of ALS and parkinsonism in humans. The researchers believe that BMAA binds to neurons at sites where the neurotransmitters glutamate and aspartate normally attach and overstimulates the nerve cells, eventually causing them to die. They are currently searching for additional plant substances that may be neurotoxic.

Spencer's group suspected the palm seeds partly because the Chamorros used them extensively as food (rice was scarce) and as a topical medicine during the Japanese occupation of the islands between 1941 and 1944, but the seeds later fell out of favor. Also, no viral or genetic factors could be implicated.

"This is one of the first times that an environmental factor such as this plant has been shown to induce such [neurological] diseases," says team member Richard C. Robertson. Previously, the team linked an amino acid in chickling peas (which are consumed in Africa and Asia, especially during famines) to a related neurological disorder called lathyrism. The environment, says Robertson, may have a hand in other cases of neurological diseases around the globe as well.