

# behavioral sciences

## Working mothers and child neglect

Opponents of the women's liberation movement have argued that working mothers might be unable to adequately care for their children. According to a report in the May *PEDIATRICS*, working mothers are not a cause of child neglect.

Lynne Oakland and Robert L. Kane compiled medical and employment records for 82 Navajo children and their mothers living in the Four Corners reservation area of New Mexico, Arizona and Utah. The researchers defined child neglect as a "disturbance in the parent-child relationship which prevented the child from receiving adequate physician and/or emotional care, thereby harming physical, intellectual or emotional development." Of the 82 children studied, 33 were found to be suffering from one or more forms of child neglect. The other 49 normal children formed the study's control group. The researchers found no difference in the percentage of working mothers in the two groups. In fact, they found that child neglect was not "closely related to mother's age, education nor employment." The study did show, however, that a significantly larger number of the mothers of neglected children were not married (single, widowed or divorced) and that the neglected children tended to come from smaller families.

## Psychiatry and the computer

The Missouri Division of Mental Health has a state-wide computer network called the Missouri Standard System of Psychiatry. Extensive clinical information from patient checklist forms is keypunched into the system and made available throughout the state. From this data, models of psychiatric conditions are developed that have been found to be as accurate or more accurate than those made by clinicians. The computer, for instance, can make probability statements concerning diagnosis, length of stay and tendencies to commit suicide or assault.

Ivan W. Sletten, Harold Altman, Richard C. Evenson and Dong Won Cho of the University of Missouri in St. Louis are now attempting to program the computer to prescribe psychotropic drugs. Data from 6,477 patients were fed into the system along with mental status items. A statistical formula was derived and the researchers report in the May *AMERICAN JOURNAL OF PSYCHIATRY* that the computer is in close agreement with clinicians on assignment of drugs. They conclude that the computer can regularly suggest assignment to one of the three major categories (major tranquilizers, minor tranquilizers or antidepressants). The clinician will continue to make the final decision but will have the benefit of knowing what others would probably prescribe.

## Education around the world

The Coleman Report of 1966 pointed out that home life is probably the most important factor in educational achievement in the United States. A study sponsored by the United Nations has now found that the same holds true around the world. For the past seven years the International Association for the Evaluation of Educational Achievement has been gathering information from 258,000 students and 50,000 teachers in 20 countries. The findings, issued in Stockholm last week, indicate that schools do make a difference but that home background is more important. Social and sexual inequality, however, was found to be related to the structure and selectivity of educational systems.

# biomedical sciences

## Acupuncture and arthritis

The ancient Chinese treatment of acupuncture consists of sticking needles into strategic areas of a person's body to relieve pain or to cure disease. Acupuncture can relieve the pain of rheumatoid arthritis, but it has little or no effect on inflammation and the course of the disease, S. C. Man of the University of Manitoba reported at a meeting of the Arthritis Foundation in Los Angeles this week.

The Canadian rheumatologist-acupuncturist studied several dozen patients with rheumatoid arthritis in the knees. Some patients had their knees treated with steroid drugs, others with acupuncture and still others with a placebo treatment. Pain relief from acupuncture (90 percent) was slightly better than that obtained with steroids (80 percent). Placebo treatment was virtually ineffective (10 percent).

Duration of pain relief from acupuncture (one to three months) was also slightly better than with steroids (two to six weeks). However steroids were more effective in reducing inflammation (50 percent) than was acupuncture (10 percent).

## Vitamin E and chromosome breaks

Damage to chromosomes, the cells' genetic material, has been heavily linked with cancer and aging. Vitamin E, vitamin C and two other antioxidants have now been shown to reduce such damage, at least in tissue culture.

Raymond J. Shamberger and his team at the Cleveland Clinic Foundation incubated cultures of white blood cells with carcinogens and the antioxidants vitamin E, vitamin C, butylated hydroxytoluene and a selenium compound. (The carcinogens were known to break chromosomes.) As they report in the May *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES*, chromosome breaks were reduced 63.8 percent by butylated hydroxytoluene, 63.2 percent by vitamin E, 42 percent by the selenium compound and 31.7 percent by vitamin C.

"The protection against chromosomal breakage provided by antioxidants may have important relationships to aging and carcinogenesis," conclude the authors. Specifically, heavy use of antioxidants might retard aging and help prevent cancer. There is other evidence that antioxidants might retard aging (*SN*: 12/23/72, p. 412). A relationship has been postulated between the declining American death rate from stomach cancer and public acceptance of cereals enriched in vitamin E and selenium since 1930 and of food-preservative antioxidants since 1947.

## Cigarette smoking and infection

Cigarette smoke reduces protection against infections, three medical scientists at the University of Western Australia School of Medicine report in the May 25 *NATURE*.

They studied antibody formation in the spleen, lymph nodes and lungs of animals exposed to cigarette smoke and of animals not exposed to smoke. Antibodies were formed in all the tissues of the nonsmoked animals. Antibody formation was reduced in all the tissues of the smoked animals, particularly in the lungs. The lungs were probably hardest hit because they came more into contact with the smoke.

Such immunosuppression, the authors suggest, "may well explain the increased susceptibility of smokers to respiratory infections. If immune surveillance has a role in the elimination of cancer cells, then irrespective of any carcinogenic activity of cigarette smoke, damage to lung immunity may allow the escape of the cancer cell from a basic control mechanism."