



PCMR message

April 1969 18

New Knowledge, Old Dilemmas

Pediatrics Congress Hears Many M.R. Papers; Nutrition, Service System Reports Predominate

Some two dozen papers read last fall to the XII International Congress of Pediatrics in Mexico City presented observations and findings of interest and significance in the mental retardation field. Among them were:

- A paper reporting that poor nutritional status of the mother is an important factor in problems of pregnancy and infancy.
- A report of experiments with rats in which mild undernutrition at time of greatest brain growth produced permanent, irreversible reduction in brain size and qualities.
- A finding of critical differences in composition of the placenta in undernourished mothers, as compared to that in normal mothers.
- A report of tendency toward concentration of severely and profoundly retarded individuals in institutions as community programs habilitate the less severely retarded.
- A finding that specific *postnatal* cause can be identified in only 8 of 100 cases of severe mental retardation.

An assertion that educators have it within their reach to provide the basis for a program of social habilitation for the retarded.

- A report that untreated phenylketonuria in a mother may produce brain damage or congenital malformation in her nonphenylketonuric children.

Five members of the President's Committee on

Mental Retardation took part in the Congress. Robert A. Aldrich, M.D., PCMR Vice Chairman, moderated the opening plenary session. Robert E. Cooke, M.D., Patrick J. Doyle, M.D., Robert B. Kugel, M.D., and George Tarjan, M.D., presented papers or served on session panels.

Because the papers of the Congress will not be generally available (proceedings were printed only for registrants), we present in this newsletter brief excerpts from some of the papers having implications in the mental retardation field. Views expressed, of course, are authors' own. For a copy of an individual paper in full, address the author.

From the Congress papers

... A CITY FOR HUMAN DEVELOPMENT has to help the human system (represented by one or more people) to develop properly. If the urban system is based on the understanding of the human one, then it will give it the chance to grow properly. If it is not, then the urban system may expose man to great dangers, eliminate him by overexposure, or limit his possibilities of growth and development and distort him by wrong types of exposures.—C.A. DOXIADIS, *Athens, Greece, in "The City and the Development of the Child—A Basic Concept for Our Cities."*

AN INFANT BORN OF A HEALTHY MOTHER IS STURDIER than one born of a poorly nourished mother. A "well-born" infant has nutri-

The President's Committee on Mental Retardation, Washington, D.C. 20201

ROBERT H. FINCH, Chairman; ROBERT A. ALDRICH, M.D., Vice Chairman; DAVID B. RAY, JR., Executive Director



tional stores to carry him through the critical early weeks of life. If the child maintains excellent nutrition, he will have stores to be drawn upon during periods of stress and prepubescent growth spurt. . . . Human and animal studies are accumulating evidence that poor nutritional status of the mother is an important factor in maternal illness, fetal deaths, prematurity, neonatal deaths, and morbidity of the live-born infants.—DR. ROBERT L. JACKSON, *Department of Pediatrics, University of Missouri, in "Somatic Growth in U.S. Children."*

. . . THREE GROUPS OF PREGNANT WOMEN ARE ESPECIALLY VULNERABLE to poor nutritional status: adolescents (teenage) who are not prepared for the additional stress of pregnancy, women who have always been undernourished, and older women with poor dietary habits who have become depleted by repeated pregnancies in rapid succession. The incidence of prematurity has been shown to rise with decreasing nutritional status of the mothers.—DR. ROBERT L. JACKSON.

IT IS WELL KNOWN THAT LACK OF STIMULATION, even in the earliest months of life, has a retarding effect on ultimate mental and perceptual development . . . This phenomenon is responsible for the majority of mental retardation in the United States and some other countries. It is also the basis for much of the educational handicaps evident when children enter school coming from inappropriate types and levels of environmental stimulation in our inner city ghettos and some types of rural settings.

The effects of overstimulation during the early years of life can also be shown to have distorting effects on mental and personality development. The child forced too early into often necessary but precocious survival tasks can accomplish them. However, this can be at expense of putting less emphasis on development in areas and functions which will later be useful to the individual, such as curiosity, abstract thinking, fantasy, and an appropriate self-image.—REGINALD S. LOURIE, M.D., *Children's Hospital of the District of Columbia, in "The Role of Stimulation in Early Child Development."*

IT HAS BEEN SHOWN IN PILOT EXPERIMENTS that quite mild undernutrition at the time of fastest brain growth in the rat, followed by an *ad libitum* diet, results in permanent reduction of brain size, cell numbers and myelin lipid content; and that these results cannot be achieved in the adult even by the most severe starvation.

The effect on brain growth does not seem to be brought about by delaying the developmental processes. Instead, these occur at the correct chronological time but to a lesser extent, and are not subsequently capable of a catch-up phase during nutritional rehabilitation. In other words, it is proposed that there are important components of brain growth which must occur at the correct chronological time, and that if this opportunity is missed due to nutritional or other restriction, complete rehabilitation may not be possible.

In the human, the comparable vulnerable period includes the last several weeks of foetal life and the first several postnatal months. The peak rate of human brain growth is in the last part of the last trimester of pregnancy. On this hypothesis, therefore, low birth weight babies even in well nourished communities may be at similar risk to infants in undernourished pre-industrial societies.—DR. JOHN DOBBING, *Department of Child Health, University of Manchester, England, in "Permanent Retardation of Brain Growth Related to the Timing of Early Undernutrition."*

. . . WE NOW KNOW THAT IF WE SIMPLY TREAT THE NEWBORN INFANT, much irreparable damage has already taken place, many injuries have already occurred, above all in the central nervous system, that we will not be able to correct later. The treatment of the newborn presupposes, in fact, familiarity with the mother's status before pregnancy, knowing what has happened ever since the beginning of gestation and, above all, what takes place in the period preceding the baby's birth. We do not yet know everything that occurs during normal pregnancy and delivery—we do not even know what induces the delivery. Without this information we cannot understand abnormalities sufficiently early. . . .—PROF. NILO HALLMAN, *Children's Hospital, University of Helsinki, Finland, in "Present Trends in Research of Perinatology."*

CANDOR, I FEEL, REQUIRES PEDIATRICIANS TO ADMIT that they have been taken by surprise by the rapidity with which the population explosion has developed since World War II, and by its disastrous impact upon the nutrition of the world's children.—RICHARD L. DAY, M.D., *Mount Sinai School of Medicine*, in *"Family Planning and the Stabilization of Population."*

IT HAS GENERALLY BEEN ACCEPTED that placental function is capable of preferentially removing and concentrating essential nutrients from the mother and transferring them to the fetus, thereby assuring adequate nutrition in utero. . . . Recently, Canosa, Dayton and Filer have compared the composition of placentas from chronically undernourished mothers with those who have experienced normal nutrition. They found that while weight and water content were comparable, the DNA, protein and cell numbers were 30% to 50% lower in the placentas of undernourished mothers. Trace mineral concentrations were rather similar for iron, copper and manganese. However, zinc levels were approximately 100% higher and chromium values were 50% lower in the undernourished compared to the well-nourished.—DAVID BAIRD COURSIN, M.D., *Director of Research Institute, St. Joseph Hospital, Lancaster, Pa.*, in *"Research Trends."*

BECAUSE OF A WIDESPREAD DISSATISFACTION with traditional forms of institutional care for the retarded, there is now, in England and in some other European countries, a move away from institutional care in large residential establishments. More hostels . . . are being built. However, a new problem is now arising. Not all severely retarded children are going into the new hostels. Instead, it is the continent and ambulant children, the ones who do not have severe physical or behavioral problems, who are being placed in the hostels, while the incontinent, the bedfast and the non-ambulant, together with children who have the most severe behavior disorders, are being cared for in the mental deficiency hospitals.

I think this trend will have serious consequences in the future unless something is done to check it. Already, the proportion of profoundly retarded children in mental deficiency hospitals is beginning to rise—for example, more than two-thirds of the

children in the largest children's hospital for the mentally retarded in London are of idiot grade. The nursing problems, and the problem of staff recruitment in such a hospital are, needless to say, formidable.—JACK TIZARD, PH.D., *Professor of Child Development, University of London Institute of Education, England*, in *"The Experimental Epidemiology of Mental Retardation."*

TO THE EXTENT THAT HIS ENVIRONMENT IS IMPOVERISHED, the child will lack for one or more of the psychological elements necessary for formal learning. Standard educational procedures assume "readiness" . . . If the teacher does not adjust her methods in response to an accurate assessment of the individual child's repertoire, the child will fail to master the fundamental elements and be doomed to fall ever further behind the expected rate of progress. . . .—LEON EISENBERG, M.D., *Harvard University*, in *"Cultural Factors in Learning Disorders."*

A REVIEW OF THE HISTORIES OF 100 SEVERELY RETARDED CHILDREN reveals only 8 in whom there is even a reasonable possibility of a specific responsible postnatal illness or event. Of these, only two—one case of recurrent meningitis and one of lead poisoning—appear adequate to explain severe retardation. In the overwhelming majority the cause is clearly prenatal.—RICHARD L. MASLAND, *Columbia University*, in *"Mental Retardation in Relation to Post-Natal Events."*

IT SHOULD NEARLY ALWAYS BE POSSIBLE TO DIAGNOSE moderate mental subnormality in the first six or twelve months, and failure to do so should be exceptional. Severe mental subnormality can hardly be missed in the first few weeks.—R. S. ILLINGSWORTH, *University of Sheffield, England*, in *"The Early Diagnosis of Mental Subnormality."*

THE PEDIATRICIAN MUST FIND NEW WAYS of expanding health services to the handicapped. Professionals must develop more vigorous methods and assume more responsibility for early case finding and assistance to families caring for retardates at home.—RICHARD KOCH, M.D., and

GEORGE DONNELL, M.D., *Children's Hospital of Los Angeles, in "Etiology and Diagnosis of Mental Retardation: Pediatric Management."*

SCHOOL PROGRAMS FOR THE MENTALLY RETARDED, whether private or publicly supported, have reflected little creativity and are more often based on preconceived notions of what the mentally retarded can do than on the reality of a careful assessment of both what the individual can do and what the community has available for him to do. For the most part, programs for the educable retarded reflect more concern for the intellectually normal child than the retarded . . . Our educational programs for the retarded are too often still merely watered-down academic programs and nothing more.—WILLIAM H. CRUICKSHANK, M.D., *University of Michigan, in "Social Rehabilitation of the Mentally Retarded."*

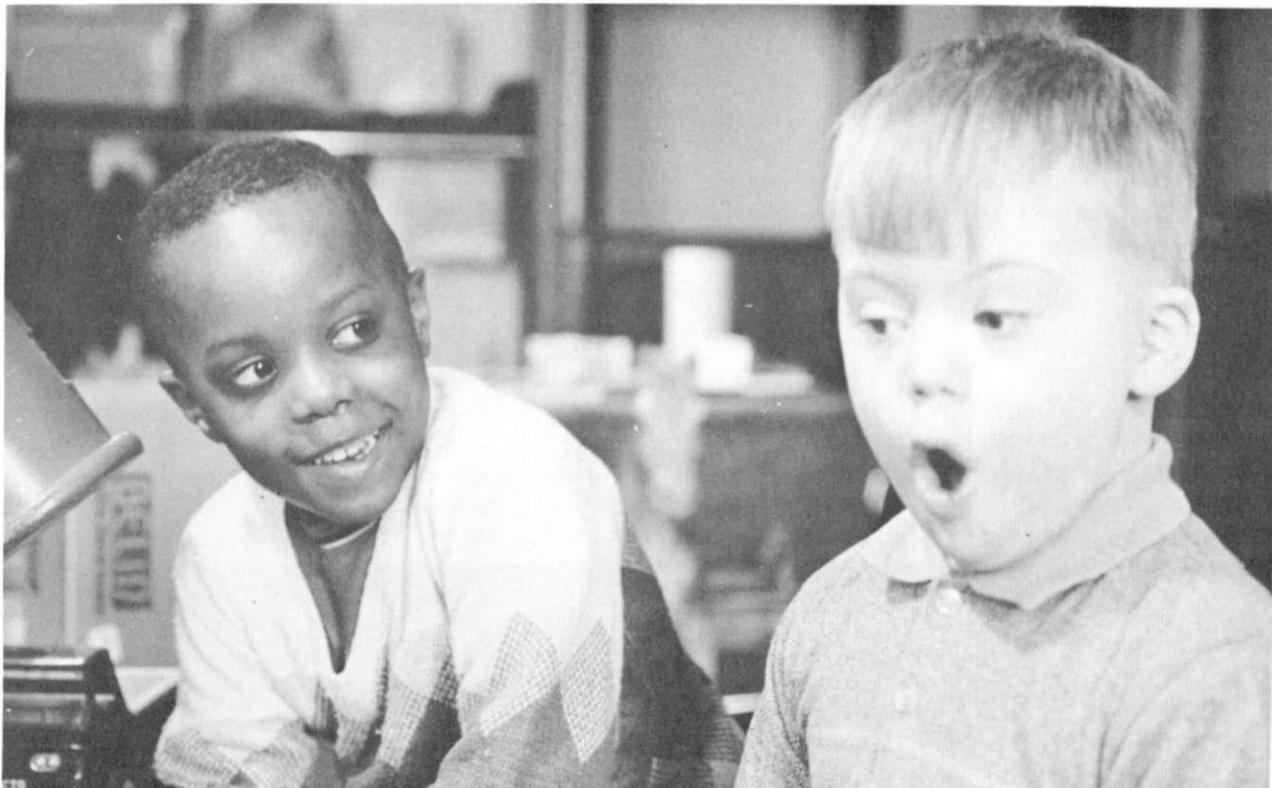
EDUCATORS HAVE IT WITHIN THEIR GRASP to provide the basis for a program of social habilitation for the retarded. Physicians, psychologists, social workers, and others in every community must cooperate with educators in insisting that such a program be conceptualized and in helping to realize it. Educators must break away from traditional concepts of teaching; from curriculums which are mere adaptations of that which is provided for all children. They must create something which is

specific to the nature and needs of the retarded child and is conceived both in terms of the retarded child's developmental progress and adult adjustment. Pediatricians can stimulate educators to this end. They can urge educators to be more realistic about the education of the retarded than they have been in the past.—WILLIAM H. CRUICKSHANK, M.D.

... IF THE PEDIATRICIAN IS TO TURN HIS ATTENTION to learning and developmental disorders, he will need to become increasingly mindful of the resources of the community. Unless the pediatrician learns about community resources, his role as an advisor will be sharply limited and his usefulness restricted.—ROBERT B. KUGEL, M.D., *University of Nebraska College of Medicine, in "The Pediatrician and Community Resources."*

THE SOCIAL WORKERS WHO PLACE BABIES should consider the remarks of Elizabeth Fairweather regarding the placing of babies less than three months of age: "Let us concentrate less on our fears of unknown factors in a child and try harder to develop greater ability to know our adoptive applicants and to realize that they can offer us healthy nutritive soil in which a new life can develop."

This is particularly important since in the last 15-20 years there has been a great tendency to place in-





fants directly from the newborn nursery into adoptive homes, and whenever possible not later than three months of age. Two to three percent of infants placed soon after birth will sometime thereafter manifest problems not previously suspected. This is equally true of infants of the entire population. —SAMUEL KARELITZ, M.D., *Long Island Jewish Hospital, New Hyde Park, New York*, in "The Handicapped Child in Adoption."

ONE THING WHICH SEEMS INCREASINGLY CLEAR is that the investigation and treatment of infants and children with various types of hydrocephalus, when this is carried out by persons with particular interest in the problem, whose technique is compulsively meticulous, whose clinical evaluations are careful and honest, and whose followup studies are persistent and conscientious, achieve a much higher percentage of successful results than when management is in the hands of the casual surgeon who treats such children without particular interest or more expert supervision simply because a new gadget is available that is easily inserted with an immediate dramatic result. . . . —DONALD MATSON, *Harvard Medical School*, in "Recent Advances in the Management of Hydrocephalus."

THE MOST COMMON SITUATION IN WHICH GENETIC COUNSELING IS ASKED FOR is this: Two normal parents who have an

abnormal child want to know what the chances are of their getting another child with the same abnormality. To be able to tell them exactly what the changes are, one must know exactly what the abnormality in question consists of, and how the affected child came to have it. But if the abnormality is mental deficiency, one can rarely give the parents a decided answer, for one can seldom say what has brought about a case of mental deficiency. —HANS OLOF AKESSON, *University of Gothenburg, Sweden*, in "Genetic Advice After Non-specific Mental Retardation."

I PERSONALLY THINK THAT AS YET TOO LITTLE ATTENTION has been paid to the biochemical status of the mother of a retarded child. Recent literature has indicated that non-phenylketonuric children may be born with brain damage or congenital malformation where the mother herself has untreated phenylketonuria. Stephenson and Huntley in 1967, from their own observations and from the literature, found that sixteen phenylketonuric mothers produced fifty-one children, of whom fifteen were normal, six had phenylketonuria and twenty-one were retarded but not phenylketonuric. Among such mothers, the offspring were frequently of low birth weight, had microcephaly and post-natal growth retardation. . . . —BARBARA CLAYTON, *London, England*, in "The Use of Diagnostic Biochemical Test in Severe Mental Retardation Before Advising on Genetic Risks."

NEWS STAND

The Nation's Youth. Children's Bureau Publication No. 460. \$1.00 from the U.S. Government Printing Office, Washington, D.C. 20402.

Compiled by the Children's Bureau in association with the Population Reference Bureau, this booklet contains 44 charts based on significant statistics about or affecting U.S. youth. A useful resource for youth program leaders.



The Tutor Chest: A Teaching-Training Program for the Very Young Child and His Family, by Juanita Shaffer, M.S. Introduction by Dr. Maria Egg. \$3.95 from Shaffer Tutor Chest Programs, 1215 Emerston Street, Palo Alto, California 94301.

A detailed description of Shaffer Tutor Chest and its uses in helping parents and teachers work with young, handicapped children. The Tutor Chest Program "provides meaningful learning-through-play experiences for any child who needs help in developing self-management and ego-building."



Teaching Good Conduct and Personal Hygiene to Retarded Teenagers. 35mm color filmstrip produced by William Schlottmann and available from Harris County Center for the Retarded, P.O. Box 13404, Houston, Texas 77019 (see following paragraph for details).

Filmstrips are organized in two sets—one for boys (5 strips and teacher's guidebook), one for girls (6 strips and teacher's guidebook). Each filmstrip is 30 to 45 frames in length. Subjects covered: men-

struation, bathing, care of hair, washing face and hands, proper clothing, personal behavior and problems, in set for girls; shaving, taking a shower, washing face and hands, proper clothing personal behavior and problems, in set for boys. Prices: Girls' set \$50.00; Boys' set \$40.00; Complete set \$85.00.



Financial Assistance Programs for the Handicapped, compiled and published by the U.S. Department of Health, Education, and Welfare. \$1.00 from the U.S. Government Printing Office, Washington, D.C. 20402.

Lists 68 financial assistance programs for the handicapped administered by HEW agencies, giving for each program the following information: nature and purpose of program; who can apply and how to apply; whom to contact for information; printed information available; citation of authorizing legislation. Program listings are organized in categories; basic and supportive services; construction; research and demonstration; training; income maintenance; other.



Mental Retardation Film List. Compiled for the Division of Mental Retardation, U.S. Department of Health, Education, and Welfare, by the National Medical Audiovisual Center, NIH. Free from Social and Rehabilitation Service, U.S. Department of Health, Education, and Welfare, Washington, D.C. 20201.

Lists, with description and availability information, 73 films on mental retardation for professional audiences and 81 films for nonprofessional audiences. Complete list of film distributors.

A Dream to Grow On. Color film, 28 minutes. Produced by the Joseph P. Kennedy, Jr. Foundation; narrated by Rafer Johnson. Available for purchase (\$125.00) or rental (\$9.00) from Bono Film Service, 3132 M Street, N.W., Washington, D.C. 20007.

"A motion picture of the Special Olympics—an inspiring demonstration of the ability of mentally retarded children to develop confidence and experience success through athletics."



New Horizons for the Handicapped Teenager — The Learning Skills Series: Arithmetic, by William F. Hunter, Ph.D., and Pauline LaFollette. Four graded textbooks (with teaching guide) published by the Webster Division, McGraw-Hill Book Company, Manchester Road, Manchester, Missouri 63011.

"Designed to help provide for the prevocational requirements of handicapped students 12 years and older, and covers the needs of pupils in intelligence quotient ranges as low as 50 to 75. . . . Of interest to teenagers and usable in practical situations, content includes: the handling of pay checks, banking, income and social security taxes, comparative buying, budgeting, the counting of money, making change, and studying advertisements."



Mental Retardation Activities of the U.S. Department of Health, Education, and Welfare. Compiled by the Secretary's Committee on Mental Retardation. January 1969 edition. \$1.00 from U.S. Government Printing Office, Washington, D.C. 20402.

