

† 25 ASSESSMENT OF TEENAGE PARENTING. Anne Willoughby, Fernando S. Mendoza, Paula M. Duke, Judith Williams, Ruth T. Gross, Stanford University Medical Center, Dept. of Pediatrics, Stanford, California

The adolescent mother and her child are a pediatric dyad at high risk medically, socially, and psychologically. A number of studies in the literature characterize the teenage mother in negative terms in regard to her maternal behavior. However, many of these studies are limited by small sample size or by use of subjective measures of parenting behavior. In the present study, we examine the interaction of 73 teenage mother/child pairs utilizing the NCATS Scales (Nursing Child Assessment Teaching Scale). This is a behavioral observation instrument which has been standardized with older mothers. The parental scores with this instrument have been demonstrated to be predictive of a child's latter cognitive functioning.

The teenagers studied ranged in age from 13 to 17 years (mean age 15.8 years). Of this group 66% of the mothers were Hispanic 24% were White and 10% were Black. The mean parenting scores achieved by the teenagers differed significantly from the average score attained in adult mothers in the normative sample ($p < .05$). However when educational level was controlled, there was no difference between the adolescent mothers and the older mothers. Adult mothers with less than a high school education had a mean score comparable to our adolescent sample. This suggests that parenting in the adolescent may be related more to educational level than to age.

● 26 HEIGHT AND INTELLECTUAL DEVELOPMENT. DM Wilson, PM Duke, SM Dornbusch, PL Ritter, JM Carlsmith, RL Hintz, RT Gross, RC Rosenfeld, Stanford University, Departments of Pediatrics and Sociology, Stanford, CA.

We analyzed data from the National Health Examination Survey (Cycle III), a representative sample of non-institutionalized US youth (3545 males (M), 3223 females (F), 12-17 yr of age), to examine the relationship between the height (normalized for age) (H) and measures of: intellectual development (WISC), academic achievement (WRAT), evaluations by teachers, and the educational aspirations and expectations of subjects and their parents. Parental education and income were used as measures of socioeconomic status (SES); sexual maturation (by Tanner score) was categorized by age into early, mid, and late-maturers. WISC and WRAT scores were both significantly correlated with H ($r = 0.22$ & 0.20 white M; $r = 0.22$ & 0.22 white F; $p < 0.0001$). Parental expectations that their child would finish college were higher for adolescents above the 50th percentile of height for age. (43% vs 33%, M; 30% vs 24%, F). Adolescent expectations that they would finish college were likewise higher in the taller group (48% vs 39%, M; 38% vs 29%, F). Teachers ranked the taller adolescents in the upper third of their class more frequently than the shorter adolescents (25% vs 18%, M; 33% vs 25%, F). These findings persist in both blacks and whites, in the lower and middle SES groups and when subjects with early and late maturation are excluded. These data demonstrate a consistent and statistically significant, although modest, correlation between H and these measures of intellectual and academic performance, as well as educational expectations of both the adolescent and parent.

27 NEURODEVELOPMENTAL PROGRESSION IN EARLY ADOLESCENCE: B. Zallen, M.D. Levine, T. Fenton, W. Kent, The Children's Hospital, Boston, Ma.

Learning disorders and developmental delays in early adolescence are apt to involve the functions developing most rapidly during this period. This study employed a new adolescent neurodevelopmental exam to discern Pearson Correlation Coefficients relating age in months to task performance. Stratified random samples age 9 to 15 (N=146) in two cohorts from 3 working class communities were studied. Significant correlations ($p < 0.030$) between age and performance were found on 18/37 items.

Notable test progressions ($p < 0.030$) were seen on 17/23 memory items; 12 were very significant ($p < 0.007$).

There was developmental progression ($p < 0.030$) on 8/10 fine motor items, including finger opposition speed, cursive writing rate, and non-visual graphomotor pattern recall ($p < 0.000$ ea.).

Marked development ($p < 0.007$) occurred on 4/5 expressive language items, including forming complex sentences ($p < 0.007$) and picture naming ($p < 0.000$).

Little age progression was seen on visual-perceptual and receptive language tasks commonly stressed in assessments of failing adolescents. Evaluation of adolescent school problems should survey fine motor efficiency, language production, and rapid retrieval memory as age-progressive neurodevelopmental functions affecting academic productivity.

BEHAVIORAL SCIENCES, HEALTH SERVICES RESEARCH

28 MICROWAVE OVEN BURNS TO PIGS AND HUMANS. Randell Alexander, James Surrell, Stephen Cohle, Steven Bauserman (spon. by William Weil, Jr.).

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Microwave ovens are increasingly popular and therefore represent a vehicle whereby child abuse may occur. There are two known cases. One consists of a 14 month-old boy put into a microwave oven by his babysitter who sustained full-thickness burns to his back and survived. The other probable case is a one-month old girl who presented with full thickness burns of her left hand, left abdomen, and right foot. Both extremities ultimately were partially amputated. No cataracts have been noted to date.

Microwave burns to piglets produced characteristics similar to the two cases. The full-thickness burn areas were sharply demarcated with relative sparing of underlying sub-cutaneous fat, but not deeper muscle (due to differences in water content). Areas above underlying bones were more affected. The distribution of burns in piglets on their backs mimicked that of the second case. Beneath the abdominal surface were full-thickness burns of abdominal viscera. Electrical burns do not show this characteristic burn pattern, may have areas of relative sparing, induce charring at the entrance wound, and typically display "streaming" of the nuclei along the direction of current.

Knowledge of the features of microwave burns are important in establishing a diagnosis of child abuse. Laparotomy may be indicated if the abdomen is burned and signs of intra-abdominal pathology are evident.

29 LONG-TERM COGNITIVE DEVELOPMENT OF CHILDREN ON HOME TOTAL PARENTERAL NUTRITION (HTPN) FOR 42 TO 96 MONTHS. ME Ament and MJ O'Connor, Department of Pediatrics, UCLA, Los Angeles, California

The relationship of long-term parenteral nutrition to brain growth and development as reflected in cognitive and motor development has not been established. Cognitive and perceptual-motor development was assessed in 8 children (5 M, 3F) between the ages of 4-7 yrs. who had received 75% or more of their nutrition parenterally since infancy. Tests included the Wechsler Preschool and Primary Scales of Intelligence (WPPSI) or the Wechsler Intelligence Scale for Children Revised (CISC-R). Perceptual motor development was measured using the Beery-Buktenica Development Test of Visual Motor Integration (VMI). Children in the sample averaged 5 yrs. on TPN (SD=9 mo.)

Overall mean Full Scale IQ was 98.63 (SD=10.04). A score of 10 (+3) represents average performance.

Verbal Tests	X	SD	Performance Tests	X	SD
Information	9.88	2.59	Picture Completion	9.75	2.25
Similarities	12.50	1.07	Block Design	9.25	2.92
Arithmetic	9.12	2.03	Coding/Animal House	9.63	2.50
Vocabulary	10.00	2.33	Mazes	8.50	4.21
Verbal IQ =	102.25	6.86	Performance IQ	94.50	13.92

All children functioned in either the normal or borderline range of intellectual functioning. Children showed strength in verbal conceptual skill (Similarities) but were weak in visual-spatial planning ability (Mazes). Perceptual-motor coordination problems were present as reflected in a mean delay of 9.87 months (SD=12.79) on the Beery Test. HTPN on a long term basis allows for normal cognitive development and self image.

30 TREATMENT OF COMMON BEHAVIOR PROBLEMS IN A PEDIATRIC CLINIC. Lowell Anderson, Max Kahn. (Spon. by Joseph Dancis) New York University School of Medicine,

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123 children (median age 4.5 years) were referred from a well-baby clinic to a behavior clinic established to evaluate the suitability and efficacy of behavioral techniques as applied in a medical setting by pediatricians. The clinic's permanent staff are a behavioral psychologist and an attending pediatrician. Rotating students, house staff and fellows are taught a standard approach to history-taking and treatment in a one-hour lecture and appropriate readings. Proficiency is generally acquired in two or three supervised sessions. Thirty different individual behavior problems were treated: Trouble sleeping (N=33) and eating (25), bedwetting (19) toileting problems (11) temper tantrums and other minor disobedience (20) and others (dawdling, phobias, hairpulling, medicine refusal, functional pain, etc (36). Also referred were children (46) with multiple behavior problems, i.e. "hyperactivity" and general home and school disobedience. Parents and children were seen together in 1 to 3, 30-minute sessions. Using a parent rated behavior check list and standardized interviews, follow-ups were conducted at 2 weeks and 6 months. 75.3% of parents with single complaints reported resolution. Only 21% of those with multiple problems benefited from the contact. 90% of those parents with single problems who could give a good description of the pediatrician's advice reported resolution; only 7% of those with poor recall were successful. However, of those parents with hyperactive children, parental recall of advice made no apparent difference in success rate.