

FOLLOW-UP STUDIES OF INFANTS BORN TO METHADONE-DEPENDENT MOTHERS. R. Ting, A. Keller, P. Berman, L.P. Finnegan. (Intr. by M. Delivoria-Papadopoulos) Philadelphia General Hospital and Dept. of Ped., Univ. of Penna., Sch. of Med., Phila., Penna.

Twenty-five infants born to methadone-dependent mothers were studied between 6 and 41 months of age for growth, developmental, behavioral and neurological status. Fifty infants of non-drug-dependent mothers of similar socio-economic backgrounds served as controls. Weight was <3rd percentile in 8% of methadone infants and 2.6% of controls (p=0.10) while 26% of methadone infants were <3rd percentile in height in contrast to none in the control group (p<0.001). Head circumferences were all within ± 2 S.D. Gesell's developmental schedule showed a mean D.Q. in the study group of 100 (S.D. ± 8.8) and in the control group 102 (S.D. ± 10.5). There was no significant difference in gross and fine motor, adaptive, personal-social and language behavior between the two groups. Behavior profiles were scored by assigning grades 1 (decreased) to 5 (increased behavior). In the methadone group there was a marked shift toward high scores; the control group profiles were normal. This behavior pattern decreased in intensity and frequency as the children reached 2 years of age. Neurologic examinations were all normal. In conclusion, children born to methadone-dependent mothers as compared to controls show: decreased linear growth under 3½ years of age, behavior characterized by increased activity and intensity of response in the first 18 months of life, and no differences with regard to developmental and neurological status.

STRANGERS IN AN INFANT'S LIFE. Mary Anne Trause (Intr. by Marshall Klaus). Cornell Univ., Ithaca, N.Y. & Case Western Reserve Univ. Dept. of Pediatrics, Cleveland.

Recent observations suggest that the concept of "stranger anxiety" has been over-simplified and that at least some of the fears shown are due to situational factors rather than to innate fears. To compare the effectiveness of varying environmental conditions in reducing infants' distress at being left with a stranger, the length of time during which the mother stayed with the infant-stranger pair before leaving them alone together and the manner in which the stranger first approached the baby and mother were systematically varied. 40 infants (mean age 53.1 weeks) from intact white families were studied. Only four of the infants fussed when the stranger first entered the room while mothers were present. However, once the mother left, infants responded significantly more negatively (p<.001) to the stranger's approach. When the stranger approached the babies slowly and focused most of his initial attention on the mothers, infants looked at him (p<.005) and smiled at him (p<.025) significantly more than when he quickly came up and focused attention on the infants. The length of time mothers stayed before leaving (3 vs. 10 minutes) did not significantly affect infants' behavior. 17 infants returned one week later to test whether meeting the stranger a second time diminished distress. Infants (particularly girls) protested significantly more at being left during the second visit (p<.05). These observations should help caregivers of young children be alert to and overcome conditions which heighten stranger protest.

A SIMPLE APPROACH TO EARLY IDENTIFICATION AND REMEDIATION OF POTENTIAL LEARNING PROBLEMS, E. Wasserman, E. Snyder, H. Asch, Dept. of Pediatrics, New York Medical College, 1249 Fifth Ave. New York, New York 10029

Identification and remediation of millions of children with potential or actual learning problems are usually fragmented, late or neglected. To achieve a solution to this complex problem will require much trial and error but obviously the methodology must be amenable to wide scale dissemination and use by teachers. Towards this goal we have developed a culture fair instrument, the Learning Potential Quotient (L.P.Q.) which assesses 10 specific skills shown to be necessary for formal school learning. Remedial exercises to strengthen demonstrated areas of weakness have also been prepared for each of the 10 subtests. An experimental program was designed for 37 subjects and 20 controls using the L.P.Q. materials exclusively. All subjects were pre and post tested. Following a 45 minute/day/4 days a week 4 month treatment program with the remedial materials, significant differences existed in favor of the treatment group. On 7 of the 10 subtests these differences were significant at the .05 level. A follow-up study of the children is in progress.

The L.P.Q. correlated with conventional instruments but had the distinct advantage of delineating specific areas of weakness which required remedial intervention.

IMPACT OF COMPUTER ASSISTED DIAGNOSIS ON HOSPITAL STAY.

Jerry R. Wexler, Phillip T. Swender, Walter W. Tunnessen, Jr., and Frank A. Oski. State University of New York, Upstate Medical Center, Syracuse, New York.

A previous study demonstrated the capacity of a computer (MEDITEL) to assist in the diagnosis of difficult pediatric problems. A study was undertaken to determine if the use of a computer diagnosis would hasten the time of initial diagnosis and reduce laboratory studies. A total of 67 pts. were studied. Pts. were selected if at the time of admission a diagnosis was not clearly evident. In 34 pts. the computer list of differential diagnoses was placed on the chart for the use of the house officer, while 33 pts. served as controls and the print-out retained by the chief resident. Review at discharge revealed that the time from admission to diagnosis was the same for both the computer (2.1 days) and control groups (2.8 days); the total number of laboratory studies ordered was similar (13.7 vs. 13.6); as was the number of irrelevant laboratory studies (1.3 vs. 2.3). When pts. in the control group, in whom a diagnosis had not been made within 48 hours, were contrasted with those in the computer group, it was found that the days to diagnosis was longer (4.48 vs. 3.40) and the number of irrelevant laboratory studies larger (3.57 vs. 1.50). Based on these observations, it would appear that in a univ. hospital setting, the routine use of computer assisted diagnosis will not decrease hospitalization costs but can be of benefit in those pts. in whom a diagnosis has not been established within 2 days of admission.

WILKINSON, CAROL, RUSH, DAVID. (Intr. by Richard Behrman, M.D.) (Division of Epidemiology, Columbia U. Sch. Pub. Hlth., NYC)

REL. OF SOMATIC GROWTH AND LENGTH OF GESTATION TO NEWBORN

NEUROLOGIC MATURITY. A twenty item newborn neurologic evaluation and a five item clinical assessment of maturity were related to gestation, and newborn weight, length and head circumference, in 463 liveborn singleton black infants. The relationships with neurologic score were linear; the correlation was only .23 with gestation, but .48 for birthweight, .35 for length, and .34 for head circ. Regression anal. demonstrated that, after controlling for gestation, birthweight added 20.5% to explained variance. On the other hand, neither gestation, nor length or head circumference added any variance to the 25.6% associated with birthweight. To test whether total score might mask interrelationships, factor analysis was performed on the combined neurologic and clinical items. A three factor solution was optimal, and suggests that the items of the exam are not equivalent; and that a simple additive score obscures much potentially valuable information. The correlations of the factors with predictor variables were:

	Factor 1	Factor 2	Factor 3	Total Score
Gestation	.21	.17	.21	.23
Birthweight	.36	.29	.44	.48
Length	.22	.39	.35	.35
Head Circumference	.25	.23	.37	.34

The relationships of the factors with the independent variables are different than with total score, and suggest "maturity" in the newborn is multi-dimensional. Joint relationships, and interaction between independent variables, will be presented.

FACTORS ASSOCIATED WITH NEONATAL HYPERBILIRUBINEMIA (HBR)

Mark J. Yanover and Gary D. Friedman (Intr. by Henry R. Shinefield)

Kaiser-Permanente Med. Ctr., Dept. of Ped., San Francisco

In view of correlations found between levels of neonatal bilirubin elevations and subnormal developmental quotients on follow-up, and a 10 to 15% occurrence of HBR (bilirubin levels ≥ 12 mg%), a study to determine factors associated with HBR was undertaken.

During an 18 month period randomly selected healthy term infants were enrolled in the study. A bilirubin determination was done at the time of hospital discharge (60 to 96 hours of age), and both mother's and infant's charts were reviewed for factors such as mother's age and health, parents' race, infant's sex, health status, type and time of feeding, and weight changes between birth and discharge.

Analysis of the data revealed no significant difference in HBR between boys and girls. There was, however, a difference in bilirubin elevations above 8 mg%: boys 56%, girls 41% (p<0.05). 27% of the 51 Oriental patients and 7% of the other 179 infants had HBR (p<0.01). Preliminary data reveals that 4 of 56 bottle-fed versus 11 of 45 breast-fed infants had HBR (p<0.05). Groups of infants with differing times of initial feeding and differing birth-discharge weight increments had no differences in HBR.

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