37 THE SIGNIFICANCE OF MOTHER-CHILD INTERACTION FOR THE UNDERSTANDING OF CHILD ABUSE AND FAILURE-TO-THRIVE:

A VIDEOTAPE ANALYSIS. Alan H. Gordon, Janet C. Jameson, Milton Kotelchuck and Eli H. Newberger Children's Hospital Medical Center, Boston, Mass. (Sponsored by Julius B. Richmond).

Mother-child interaction and behavioral developmental characteristics of infants with diagnoses of child abuse and failure-to-thrive were examined in videotaped observations. 40 subjects, from a 400 case epidemiologic study of pediatric social illnesses were observed with their mothers in a laboratory playroom setting. These infants 12-30 months of age were studied on measures of separation protest, attachment and reunion behaviors tempo and organization of play. For comparison purposes a control group matched on age, sex, socio-economic status, age at hospitalization and length of hospitalization was observed.

Analyses of the videotapes reveal important behavioral distinctions for the two groups in comparison to normal developmental age trends. This methodology permits a clearer understanding of the mother-child interaction as an important diagnostic issue. This suggests the need for integrating mother-child interactional issues with the more traditional focus on maternal psychopathology and social class in considerations of etiology. The value of this methodology for the behavioral study of clinical syndromes is illustrated with videotaped vignettes.

38 THE USE OF OBSTETRIC SERVICE SIZE AS A CRITERION FOR REGIONALIZATION OF PERINATAL SERVICES.

R.G. Harper, M.M. Sokal, S. Sokal, V.F. Mastrotta, & J. Davis, Depts. of Ped. & Ob.-Gyn., North Shore U. Hosp., Manhasset, NY, & Depts. of Ped. & Ob.-Gyn., Cornell U. Med. Coll., NY, NY (Intr. by Fima Lifshitz).

All 315 perinatal deaths in Nassau County in 1973 were reviewed by a panel of obstetric and pediatric perinatologists. Preventability, based on the presence or absence of factors which would have materially lessened the risk of death, was delineated for each perinatal death. Perinatal death rates (PDR) and preventable perinatal death rates (PPDR) were developed for each hospital. All deaths were attributed to the hospital of birth. Size of obstetric service was defined as the total number of births per hospital. The mean PDR was 20.3 with a range of 12.0-50.3/1000 live births; the mean PPDR was 4.9 with a range of 2.0-10.1/1000 live births. There was a significant inverse correlation between the size of a hospital's obstetric service and its PDR ($p < 0.02$). There was no significant correlation between the size of a hospital's obstetric service and its PPDR. These findings suggest that a hospital's obstetric service size should be considered in conjunction with mortality data (PDR) and an assessment of quality of care (PPDR) when regionalizing perinatal services.

39 MATERNAL BREAST FEEDING AND SUBSEQUENT INFANT DEVELOPMENT.

Reba M. Hill, Lee B. McCulley, Willie M. Verniaud, (Spon. by L. Leighton Hill). Baylor Col. of Med., Dept. Ped., Houston, Texas.

Thirty-six breast fed infants (BF) and 36 formula fed (FF) infants from a middle socioeconomic population were matched according to sex (16 pairs F and 20 pairs M), birth weight, gestational age, Apgar score, mode of delivery and ethnic background to assess the effect of breast feeding on later development. Sixty-one percent were first-born infants. The mother first held and fed her infant at 12 hours of age, and breast or formula fed the infant at 24 hours of age. Infant feeding and visitation with the mother was at 4 hour intervals for 45 minutes. Mean duration to BF was 2.96 months with a range of 1 week to 9 months. Mean maternal education of the BF group was 14.3 years and 13.8 years in the FF group.

Developmental evaluations of the 36 pairs of infants at 9 months of age showed the DQ ($p < .01$), fine motor development ($p < .01$), adaptive and language development ($p < .05$) scores were higher in the BF infant. Repeat examination of infants (36 pairs) at 18 to 24 months of age showed higher scores in gross motor development ($p < .05$). At 36 months of age 18 pairs of infants were available for testing. Adaptive behavior was found to be significantly higher in the BF infants ($p < .05$).

It is suggested that the act of breast feeding plays some part in the developmental achievement of the infant. Perhaps longer effects may be present. Whether this is due to primary maternal motivation to breast feed, tactile stimuli or favorable factors yet unknown requires investigation.

40 IDENTIFICATION OF PSYCHOSOCIAL RISK FACTORS ASSOCIATED WITH SUBSEQUENT CHILD ABUSE AND NEGLECT IN FAMILIES WITH INFANTS IN A NEWBORN INTENSIVE CARE UNIT.

Rosemary S. Hunter, Frank A. Loda, Nancy J. Kilstrom, and Ernest N. Kraybill, Depts. of Psychiatry, Pediatrics, and Social Work, University of North Carolina School of Medicine, Chapel Hill.

Parents of newborns in the Newborn Intensive Care Unit of N.C. Memorial Hospital were evaluated on the basis of a 24 item scale to identify families who might have difficulty caring for premature or ill infants. During the 13 month period beginning June 1, 1975, 271 families with 282 newborns were interviewed. Based on this prospective evaluation 51 children were believed at high risk of abuse or neglect because of psychosocial familial factors. Of these high risk children 12 died or were discharged to foster care or institutions. Of the 39 children in this group discharged in parental care 2 children subsequently died and 9 were reported to be abused or neglected. None of the 206 infants in the low risk group discharged in parental care have been reported as abused or neglected in the 6-18 month follow-up. Adolescence, inexperience in child care, prior reproductive difficulties and recent life change were common in both high and low psychosocial risk groups. Factors predominantly associated with high risk were failure to accept or prepare for the infant, social isolation, non-use of medical resources and a family history of child abuse or neglect. Early identification of psychosocial risk factors and more effective social supports, as well as better medical services, are needed to improve the care of these predominantly poor, rural infants. (Supported by DHEW #90-C-408, National Center on Child Abuse and Neglect.)

41 INCREASED PHYSICIAN EFFICIENCY IN THE INTENSIVE CARE NURSERY WITH A SINGLE ENTRY OF DATA AND COMPUTERIZED PRODUCTION OF FORMS, SUMMARIES AND LETTERS.

Daniel S. Janik, Orville W. Swanner, (Spon. by James J. Quilligan). Loma Linda University School of Medicine, Department of Pediatrics, Loma Linda, California

As the concern for the high-risk infant increases and the disease states multiply, so do the demands for adequate documentation and communication and correspondence to parents, physicians and allied health agencies regarding that infant's status. In order to provide accurate recording and distribution of this information, i.e., transport note, letters, State forms, discharge summary, etc., while preventing an unnecessary duplication of physician paperwork, the following project ensued. A comprehensive four page form for the recording of all available historical and pertinent data about the infant has been devised and repeatedly streamlined.

An on-line computer system using COBOL Language and direct entry with light pen has evolved after the initial punch card entry system proved financially feasible and successful. Unconstrained data, e.g., exact temperature, weight and dose rather than group categories are recorded. The test of this system has been willing physician compliance and acceptance by the agencies and departments requesting data about the infant. The reduction of paperwork by > 50% has provided incentive with > 95% physician participation and acceptance. There is immediate availability of data on discharge.

42 AN "AT-RISK" CONCEPT AS APPLIED TO A NUTRITION PROGRAM FOR EARLY SCHOOL-AGED CHILDREN IN AN INNER-CITY COMMUNITY.

Robert Karp, Jeanette Fairorth, Robert Berger, Wayne Amarnek, Spon. by M. Winick. Jefferson Med College, Dept of Comm Hlth & Prev Med, Phila.

A survey was conducted among 221 inner-city school children, 5 to 8 years of age, for the purpose of identifying those who were malnourished. Measurements of height (Ht), mid-arm circumference, triceps fat fold, and hemoglobin were recorded. Mid-arm muscle circumference (MAMC) was calculated. It was assumed that children with normal measurements of either Ht or MAMC were not likely to have protein-calorie undernutrition. Children with anemia were assumed "at-risk" for iron deficiency. Risk categories were defined: nutritional risk level 1, reduced HGB, Ht and MAMC (N=15); risk level 2, reduced HGB, normal Ht or MAMC (N=63); risk level 3, normal HGB, reduced Ht and MAMC (N=17); risk level zero, normal HGB, normal Ht or MAMC (N=126). These measurements suggest an association between anemia and somatic growth retardation in the population surveyed ($0.05 < p < 0.10$).

A treatment protocol was instituted for families of children in each risk category. Investigation in the homes of children in risk level 1 revealed families in need of medical, social and nutritional services. Problem lists were constructed for affected families. A child with an 18 month history of vaginal bleeding was hospitalized. Five families were enrolled in a comprehensive medical care program with a supplemental nutrition component.