

55

HEAD CIRCUMFERENCE AT BIRTH AS A PREDICTOR OF NEURO-BEHAVIORAL OUTCOME. Evelyn Lipper, Kwang-sun Lee, and Lawrence M. Gartner. Albert Einstein College of

Medicine, Dept. of Pediatrics, R.F. Kennedy Center, Bronx, N.Y. Neurobehavioral (NB) outcome of low birth weight infants was studied in relation to head circumference (HC) at birth. Infants weighed <2250 gms. and/or were <37 weeks gestation (Dubowitz examination). Follow-up NB evaluation performed on 127 infants at the corrected chronologic age of 7 months consisted of a neurologic examination and administration of the Bayley Mental Scale (MDI). Ninety-one infants (71.7%) had appropriate HC for gestational age (AHA, <10th percentile, Lubchenko) and 35 (28.3%) had a small HC (SHA). MDI was <80 in 34.3% of SHA infants compared to only 16.3% of AHA infants ( $p < 0.05$ ). Severe neurologic deficit was found in 20% of SHA infants compared to only 5.5% of AHA infants ( $p < 0.05$ ). The incidences of MDI < 80 and severe neurologic deficit in subgroups of AHA and SHA were not significantly affected by whether total body weight was appropriate or small for gestational age (AGA or SGA). Thus:

	AHA		SHA	
	AGA	SGA	AGA	SGA
%MDI < 80	16.7	14.3	37.5	33.3
% severe neurologic deficit	5.2	7.1	12.5	22.2

Previously reported associations of fetal body growth retardation with poor NB outcome probably apply primarily in those infants with fetal head growth retardation (SHA). Evaluation of HC at birth in relation to gestational age adds an important dimension to the prediction of neurologic outcome.

58

A NEONATAL ABSTINENCE SCORING SYSTEM: RESULTS OF AN INTERSCORER RELIABILITY STUDY. Bonnie A. MacNew, Vonda Leonard, Loretta P. Finnegan, (Spon. by Leonard

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An improved abstinence scoring system (ASS) aimed at improving the accuracy of clinical assessment of the infant of the drug dependent mother has been developed. Nurses administer the clinical tool used for monitoring the progression and diminution of symptomatology, effectiveness of various medical and nursing therapeutic approaches, and to ascertain whether or not pharmacologic intervention is necessary for detoxification. If therapy is initiated, the ASS is further used as a guide to titrate subsequent dosage levels to effectively control the withdrawing infant and determine when treatment should be discontinued. A study was conducted to ascertain whether the abstinence scores (AS) obtained by the nurses were reliable indices of the infants' symptoms. The results revealed that many infants were inaccurately scored, therefore managed inappropriately according to established protocol. To improve the accuracy of AS reported by the nurses with consequent improvement in the quality of total clinical management, the ASS developed by Finnegan, L. et al. was revised and an expanded protocol for clinical management of the infant undergoing abstinence has been developed. The revised scoring system categorizes abstinence symptoms by the organ systems disturbed. Furthermore, the new approach defines more precisely both the quantitative and qualitative infant behaviors being assessed. Supported by NIDA Grant #DA01807 and Commonwealth of Pa. Contract #1674.

56

INFANT CARE--CACHE OR CARRY? Betsy Lozoff, Gary M. Brittenham, (Spon. by M. Klaus), CWRU School of Med., Rainbow Babies & Childrens, Dept. Ped., Cleveland

To test the hypothesis that a single infant care pattern prevailed during human evolution, contemporary hunter-gatherers (H&G) were examined. Since hunting and gathering in the tropics sustained humans for more than 99% of the species' history, the few surviving groups provide the best available indication of the care to which the human infant was adapted. All tropical H&G (n=10) in Murdock & White's Standard Cross-Cultural Sample of linguistically, historically and geographically representative societies were analyzed. Numerically coded measures of infant care from Barry & Paxson's Cross-Cultural Codes revealed a consistent pattern. Among H&G (all or with a single exception), mothers were the principal caregivers, slept in the same room or bed as the infant and breastfed for 2 years or longer. Infants were held or carried most of the day in close body contact and had complete freedom of movement when not held. Care was consistently affectionate with immediate nurturant response to crying. Nonetheless, in most groups, children achieved early independence and by 2-4 years spent more than half time away from the mother. In the U.S. this pattern of carrying that endured for 1-3 million years has been replaced by one resembling nesting or caching. Infants spend little time in body contact with caregivers and their movements are restricted by playpens, highchairs or cribs. Of the minority who are breastfed, half are weaned within a few weeks. Separate sleeping arrangements and delayed response to crying are regularly recommended. These recent remarkable transformations may alter infant development and maternal involvement.

59

LENGTH OF STAY FOR NEONATAL INTENSIVE CARE UNIT INFANTS. J.T. McCarthy and B. Block

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The records of all infants admitted to The Children's Hospital Neonatal Intensive Care Unit (NICU) during a seven month period were reviewed to determine their lengths of stay. Infants were grouped according to the following birth weight categories: <1000 grams, 1000-1499 grams, 1500-1999 grams, 2000-2499 grams, and > 2500 grams. These five weight groupings were subdivided by outcome; that is, survive or expire. An analysis of the infants who survived revealed an inverse relationship between median length of stay and birth weight. The median length of stay for infants under 1000 grams was 100 days; whereas, for infants 2500 grams and above, it was 9 days. Infants under 1500 grams, who represented 24.3% of the sample, required approximately 50% of the total patient days for all infants. Length of stay for NICU infants cannot be accurately described by any one number. Rather, median length of stay by specific weight groups and outcomes provides a more comprehensive description of this variable. This methodology has potential use for health planners in projecting bed needs and personnel requirements for NICU infants.

57

THE EMOTIONAL BENEFITS OF A CAMPING EXPERIENCE FOR CHRONICALLY ILL CHILDREN. A. Harold Lubin, Judy L. Bonner, Bernice J. Lubin (Spon. by Milo D. Hilty)

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Organizing summer camp for 17 children with cystic fibrosis (CF) had clear cut therapeutic and educational benefits; it allowed medical personnel to identify problems in medication, postural drainage, and nutrition. The children were taught more positive attitudes about all aspects of treatment. In experiencing separation, and self-sufficiency from families, CF campers learned how and why they should care for themselves. It also pointed out that camp is an ideal instructional setting in which to face the emotional and social problems of chronic disease. The major benefit for the children was the chance to form a natural peer group. The support of like-affected children helped them express negative feelings previously suppressed. All of the children, from mildly to severely affected had negative body images focused on short stature and thinness. Some pretended to come from very short, thin families. Many older children expressed fears about their futures. All of them felt ridiculed by healthy classmates. The CF group's supportive atmosphere allowed them to confront and to respond to intimidation from healthy campers. The CF group was encouraged by their success. There is a significant carry over factor because the severely affected children, especially boys, are reportedly performing better in school and are better socialized than previously. The parents feel more secure in their knowledge that CF children can enjoy positive social and recreational experiences.

60

EVALUATION OF THE REGIONALIZATION OF PERINATAL CARE: MORBIDITY IN SURVIVING CHILDREN AT ONE-YEAR. Marie C. McCormick, Sam Shapiro, Barbara H. Starfield,

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The presentation will focus on the prevalence of developmental disability, congenital anomalies and other morbidity, and the correlates of these types of morbidity with antenatal and intrapartum events, socio-economic characteristics and medical care utilization in a population of one-year old infants. The data to be presented are derived from a survey of about 5,000 infants in 8 regions in the country (80% of those known to be living in the regions at the time of the survey), and represent the first such data set in the US for a large geographically based population. The data were obtained using an instrument combining an interview with direct observations of developmental activities during visits to the homes of infants selected randomly from births in each of the 8 regions, with an oversample of low birthweight infants. This survey is part of a project to evaluate the effectiveness of regionalization of perinatal care in the 8 regions, and complements the analysis of the infant, perinatal and neonatal mortality rates in these regions.