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The Effect of Income and Ethnicity on Infant Feeding Practices (IFP) Related to Oral Health. JEAN L. CRAIG\* & M. DIANNE MURPHY, UTHSC Dental School at San Antonio, Tex., Dept. of Ped., U. of Tenn. Mem. Res. Ctr. & Hosp., Knox, Tenn. (S. SINHA, M.D., Sponsor.)

The age of discontinuing bottle feeding, use of bottle in bed, knowledge concerning need for fluoride, and use of fluoride supplements are four IFP which impact oral health. The purpose of this study was to determine the effect of demographic variables, family income & ethnicity on IFP's.

Using a 22 item survey instrument with 4 items relevant to oral health, a bilingual Mexican-American interviewer surveyed 277 mothers of children <2 y.o. The study group consisted of 42.0% Anglos, 52.5% Hispanics & 4.0% Blacks. Data analysis included both Chi Square and Analysis of Variance.

Significant differences ( $p < 0.05$ ) existed in demographics & IFP within and between the three ethnic groups. All four IFP were significantly different ( $p < 0.03$ ) between ethnic groups & family income levels. Use of bottle in bed was significantly different ( $p < 0.05$ ) across income levels for Hispanics. Use of bottle in bed, age bottle discontinued, & use of fluoride were different ( $p < 0.05$ ) across income levels for Anglos. In the low income group, Anglos discontinued bottle feeding significantly earlier ( $p < 0.05$ ) than did Hispanics (12.9 vs 15.4 mos.). In the high income group, Anglos used fluoride supplements significantly more ( $p < 0.01$ ) than did Hispanics. There were no other significant differences among groups. Family income appears to have a stronger influence than ethnicity on IFP's which impact oral health.

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A DESCRIPTION OF MEDICAL, DEVELOPMENTAL AND PSYCHOSOCIAL OUTCOME FROM 6 TO 48 MONTHS IN A GROUP OF NICU GRADUATES. Cyrus Dabiri, Elizabeth Krafchuk, Irene Bliss. (spon. by Edward Reiter). Baystate Medical Center, Dept. of Pediatrics, Springfield, MA.

A comprehensive assessment of the medical, developmental and psychosocial outcome of a heterogeneous group of 131 NICU graduates was made by a multidisciplinary team at 6, 12, 18, 24, 36 and 48 months of age. Results of an in-depth clinical interview conducted at 6 months were analyzed to determine what psychosocial issues were most stressful to these families.

Synthesis of the multiple medical problems encountered indicated that most infants were initially identified as having a problem at 6 months (28%); resolution of these problems required varying amounts of time, with an even distribution of cases showing at medical risk, 50% showed resolution over the ages studied while 43% did not. Cognitive functioning, assessed with the Bayley exam from 6 to 24 months, was generally found to be one standard deviation below average, with the sample consistently showing lower psychomotor than mental development. General cognition, assessed with the McCarthy scales, was found to be within average ranges; however, motor scores were significantly lower than verbal scores.

The most frequently identified psychosocial problems were financial stress, medical costs, and marital adjustment. Extended family support was noted to be a central factor in helping to resolve difficulties associated with having a high-risk infant.

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CHANGING PATTERNS OF MATERNAL AGE AND BIRTH ORDER: EFFECTS ON INCIDENCE OF LOW BIRTH WEIGHT (LBW). Richard J. David, and Chu Chen. (Spon. by Carl E. Hunt). Northwestern Univ., Children's Memorial Hospital, Department of Pediatrics, Chicago, IL.

Numerous cross-sectional studies have shown a strong relationship between maternal age, birth order, and the risk of delivering a LBW baby (<2500g). We analyzed all 366,005 white and black deliveries in North Carolina (360,925 live births, and 5,080 fetal deaths) in two cohorts 10 years apart. Over this period the optimum age-birth order combinations (those with minimum risk for LBW) changed. For white mothers, the lowest risk age shifted about 3 years from 26 to 29 years, and optimum birth order remained constant at 2. For black mothers, the optimum age remained constant in the late 20s, but the lowest risk birth order moved from  $\geq 5$  to 3. When joint effects of age and birth order were considered, the risk pattern of blacks changed the most, becoming more like that of whites. Both blacks and whites had a shift of births out of higher birth orders, especially into birth orders 1 and 2 with maternal age 23 to 34. Because of a better match between shifting birth frequencies and age-birth order-specific risks, the observed trends appear to have had a more beneficial effect on reducing LBW among white births. Since risk effects of age and birth order change over time in populations studied longitudinally, it is unlikely that the observed low-risk age-birth order combinations represent any fixed "biological optimum" for reproductive timing. Such longitudinal changes also make it difficult to quantify precisely the contributions of changing pregnancy timing to declining LBW rates.

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RISK FACTORS ASSOCIATED WITH NOSOCOMIAL ROTAVIRUS INFECTION (RVI) ON AN INFANT WARD. Penelope H. Dennehy, Quoc V. Nguyen, and Georges Peter, Brown University and Rhode Island Hospital, Department of Pediatrics, Providence, RI.

In a prospective study of a single ward for 0-2 yr. old children, 3X/wk stool specimens were obtained during hospitalization from all children admitted for one month in the winter of 1984, and tested for RV by ELISA. In those children who were RV-negative at discharge, a single stool specimen was obtained from those developing symptoms within 1 week. Of 110 children, RVI occurred in 28 (25.1%), 17 of whom were hospital-acquired (HA) occurring  $\geq 72$  hrs. after admission. RVI developed in 2 of 17 cases after discharge. Nine of 11 community-acquired (CA) and 15 of 17 HA cases manifested symptoms; and in no case did RV positive stools precede the onset of symptoms. Risk factors for HA of RVI included the following: 1) Room contact. RV patients were in contact with other RV cases for 3.8 d in comparison to 1.4 d for controls (72 RV-negative children) ( $p < .02$ ); 11/17 (65%) patients with RVI in comparison to 23/72 (32%) controls ( $p < .03$ ) were in multibed rooms. 2) Inadequate isolation of RVI. In spite of hospital policy, enteric precautions were not implemented in 5/11 CA and 11/15 HA cases. 3) Prolonged hospitalization. Whereas the mean duration of hospitalization for controls was 4.7 d, the mean time of RV acquisition for HA cases was 8.1 d. These findings indicate that control of HA RVI necessitates prompt identification and isolation of not only CA but also HA patients with RVI.

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TRENDS IN THE PREVALENCE OF CHILDHOOD AND ADOLESCENT OBESITY IN THE UNITED STATES. William H. Dietz, Steven L. Gortmaker, Arthur M. Sobol, Cheryl A. Wehler. (Spon. by R.J. Grand), New England Medical Center, Harvard School of Public Health, Massachusetts Department of Public Health, Boston, MA

Trends in the prevalence of obesity in 6-11 year old children and 12-17 year old adolescents were examined using data collected during the National Health Examination Survey (NHES) Cycle II (1963-65), NHES Cycle III (1966-70), first National Health and Nutrition Examination Survey (NHANES I, 1971-74), and NHANES II (1976-80). All four surveys used a complex multistage probability sampling design to provide representative samples of the noninstitutionalized population of the United States. Obesity was defined as a triceps skinfold  $>85$ th percentile of 6-11 year old children studied in NHES Cycle II or 12-17 year old adolescents studied in NHES Cycle III. Superobesity was defined as a triceps skinfold  $>95$ th percentile. Over the 10-15 year period encompassed by these surveys, obesity and superobesity increased by 54% ( $p < .0001$ ) and 98% ( $p < .0001$ ) respectively in 6-11 year olds and by 39% ( $p < .0001$ ) and 64% ( $p < .0001$ ) respectively in 12-17 year olds. In both groups, the increases in prevalence were greater in blacks than whites. In 6-11 year olds, greater increases occurred in males, whereas in 12-17 year olds, greater increases occurred in females. Previously documented differentials in the prevalence of obesity by season and region of the country persisted independent of the changes in prevalence. These data indicate that obesity is epidemic in the pediatric population, and emphasize the need for more effective therapy and prevention.

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BREASTFEEDING: INFLUENCE ON SUBSEQUENT DEVELOPMENT OF INSULIN - DEPENDENT DIABETES. John A. Duncan, John I. Malone, Joseph Barron, University of South Florida, Department of Pediatrics, Tampa.

The immunologic benefits of breastfeeding in infancy are well appreciated. Since trends in early infant feeding have changed over the past 25 years, we examined the frequency of insulin dependent diabetes (IDD) as a function of early infant feeding practice and duration of breastfeeding (BR) in 221 IDD patients and 240 of their non-diabetic siblings.

Group	Total N	BR	% of Total
IDD	221	66	30
SIB	240	69	29

Group	Total N	Days of BR ( $\bar{M}$ )	S.E.M.	P
IDD	66	116	17.6	NS
SIB	69	165	25.8	NS

There was no correlation of BR with age at diagnosis or incidence of IDD in a given sex. Since hereditary, immunologic and, presumably, environmental factors were similar for children within each family, we conclude that breastfeeding imparts no immunologic protection against later development of IDD.