

43

COST OF NEONATAL SURVIVORSHIP: Douglas D. Deming, Nidia R. Vyhmeister, Susan J. Neese. (Spon by J. Joseph Quilligan) Loma Linda University School of Medicine, Dept of Pediatrics, Loma Linda, CA

During the last few years there has been a dramatic increase in medical costs and the number of survivors of neonatal intensive care units (NICU). We hypothesized that the cost of survivors from NICU's has decreased with the increase number of survivors.

We looked at the hospital charges of 1344 infants admitted to the Loma Linda Univ NICU between Jan 1981 and June 1983. The charges were analyzed in various groups by gestational age, birthweight, and diagnostic categories. A cost of survivorship (COS) was calculated by dividing the total charges for each group of infants by the number of survivors in that group. Additionally we looked at the length of stay and the number of admissions and survivors in each category.

The COS for infants with birthweights greater than 1000 gms did not change during the study [\$26144(1981) to \$26745(1983), calculated using the local medical inflation rate]. For infants less than 1000 gms the COS increased if less than 50% of the category survived, but the COS decreased if the survivors were greater than 50% of their category [\$242617, 2 surv/21 babies (1981) to \$143287, 16 surv/27 babies(1982)]. The infants who survived had a longer hospital stay and a greater cost than those who died.

We conclude that the COS is dependent on an absolute increase in the number of survivors, the length of hospital stay, and the percent of infants surviving in each category.

44

NEONATAL MORTALITY RISK OF SICK PREMATURE INFANTS IN AN OUTBORN POPULATION. Delphine Eichorst, M.D.; Barbara J. Quissell, M.D.; L. Joseph Butterfield, M.D., all of The Children's Hospital, Denver, Colorado

Neonatal mortality of all patients <37 weeks gestation transported to The Children's Hospital Denver tertiary care nursery was reviewed for the years 1978-82. There were 1,972 patients of < 37 weeks gestation and 280 neonatal deaths (mortality 14.2%).

A neonatal mortality risk chart was prepared in a manner similar to that recently published by the University of Colorado.

Gestation (wks)	Neonatal Mortality %	
	1978-82 TCH(outborn)	UCHSC(inborn) 1974-80
26	52	90
26-31 AGA	16	20
26-33 SGA	34-49	39-63
32-33 AGA	8	6
34-36 AGA	2-4	0.2-2
34-36 SGA	8	6

Improved mortality for the extremely low birthweight category in the outborn population probably reflects transport of only the most vigorous infants. For the larger outborn premature infants, the increased mortality probably reflects the severity of illness of these babies and the greater number of well infants in the inborn population. We feel that the survival in our outborn population is comparable. This is significant considering the long distance many of our infants are transported.

This mortality risk chart for sick premature infants may be helpful to referring physicians and to families of these transported infants.

45

SOCIAL ENVIRONMENT AND DEVELOPMENT IN HIGH RISK INFANTS. Stephen C. Engelke, Ken Aung-Din and Evelyn Sanders (Spon. by Jean Kenny). East Carolina Univ. School of Medicine, Dept. of Pediatrics, Greenville, NC.

The importance of social environment on infant development was prospectively studied. Social worker assessment (SWA) and a psychosocial inventory (PSI) were administered before discharge to mothers of 138 ill newborns: 93 patients with no neurological disorder (group I) and 45 with intraventricular hemorrhage (group II). The PSI included a summary psychosocial score (PSS) and subscores measuring stress, support systems, parenting skills, psychological profile, child abuse potential (CAP) and pregnancy attitudes (PA) (Altemeier 1979, others). Testing was done at 6, 12 and 18 months of age. Abnormal neurodevelopment was defined as Bayley indices <69, failure on Denver Development testing or major neurological abnormality.

In both groups I and II, abnormal SWA (Ia, IIa) had an additive effect compared to normal SWA (In, IIn) on risk of abnormal development (%): 12% (In), 28% (Ia), 50% (IIn), 64% (IIa), p<.001. PSI scores were higher in group I with normal versus abnormal development for CAP (p<.05), PA (p<.005), and PSS (p<.001). PSS significantly correlated with later neurodevelopment:

	Normal	Abnormal	(%)abnormal	p
PSS ≤ 0	19	14	42%	<.001
PSS > 0	54	6	10%	

Differences remained, controlling income and mother's education. A relationship is shown between social environment at birth and subsequent development which may allow earlier prediction and help for families of neonates at high risk of abnormal outcome.

46

DECREASED CIRCUMCISION RATE WITH VIDEOTAPE COUNSELLING. Robert W. Enzenauer, Tom E. Wiswell, John M. Powell, James W. Bass, (Spon. by James W. Bass, Tripler Army Medical Center, Dept. of Pediatrics, Honolulu, HI).

Most parents are not properly counselled about neonatal circumcision. We hypothesized that counselling using videotape presentations might be effective in reducing the circumcision frequency rate (CFR). We performed an intervention trial to test this hypothesis. A videotape presentation summarizing factors relating to neonatal circumcision was prepared. Permission was obtained from NBC, Inc. to also present Kiker's NBC News Magazine commentary "Circumcision: the casual cut" which aired in Nov 1981. In the videotape counsel group (VTCG), parents of male infants born between 1 Jan and 30 Jun 1982 were asked to view the two videotapes before deciding for or against circumcision. In the routine physician counsel group (RPCG), parents of male infants born after 1 Jul 1982 were counselled by the house officer-on-call without the videotape. This second method of counselling was what had been practiced prior to undertaking the study. The CFR of the VTCG was compared to the RPCG and with circumcision data from previous years at Tripler AMC. Results are as follows:

GROUP	CFR ACCORDING TO TYPE OF COUNSELLING			
	MONTH/ YEAR	MALE BIRTHS	MALE CIRC.'S	CFR
PRESTUDY	1973-1981	15,904	14,370	90.0%
VTCG	Jan-Jun 82	831	586	70.5%
RPCG	Jul-Sep 82	462	335	72.5%
	Oct-Dec 82	404	322	79.7%
	Jan-Jun 83	805	676	84.0%

Conclusion: VTC is an effective method for "informed consent" to circumcision, and significantly affects the choice that is made (p<.05).

47

PARENTAL NEEDS IN A NEONATAL INTENSIVE CARE FOLLOW-UP CLINIC. Victor Fornari, Miriam Sherman and Evelyn Lipper, (Spon. by Peter Auld) The Long Island Jewish-Hillside Medical Center, New Hyde Park, N.Y. Department of Child Psychiatry and Cornell Medical College, The New York Hospital Departments of Pediatric Mental Health and Perinatology, New York.

There has been a recent increase in the number of neonatal intensive care units. The literature suggests that premature infants are poorly parented more frequently than full term infants. It is known that low birth weight and seriously ill infants have a higher incidence of abuse and failure-to-thrive than those born at full term. In order to provide optimal care for parents of high risk infants an attempt was made to assess what these parents perceived their needs to be. They were offered an opportunity to be a part of a parent group and/or speak to a professional on an individual basis.

Sixty-one parents of infants from age 1-18 months were evaluated using a brief semi-structured interview. Results indicated that 62% of parents interviewed wanted the intervention program. A discriminant analysis was performed to determine what variables correlated with the parents desire to engage in the intervention program.

Higher socio-economic status (SES) and greater severity of illness were directly correlated with parents wanting an intervention. Younger maternal age and lower SES were correlated with not wanting the intervention program. Programs designed to meet the needs of these parents should be part of the comprehensive care prescription. Other programs must be designed to reach the low SES young mother.

48

EFFECTS OF CHRONIC HEALTH CONDITIONS ON SCHOOL ADAPTATION. Mary G. Fowler and Mary P.F. Johnson (Spon. by Frank Loda). UNC Dept. of Peds., Chapel Hill, NC

This study of children with chronic health conditions (CHC) assessed the relationship of demographic and health variables to school achievement and absenteeism. From July 1982 to June 1983 data were collected in 11 subspecialty clinics on 270 children followed at a tertiary care center. Academic performance and days absent for the prior year were obtained from schools. Physicians rated subjects' activity limitation. The CHC group was 61% male, 68% white, mean age 12 years. Children with cystic fibrosis, arthritis, sickle cell disease, hemophilia, and spina bifida averaged the most days absent (>20), while those with chronic lung and cardiac conditions averaged the least (10). Total CHC achievement scores were well below the state average (53rd vs. 63rd percentile). Group scores were highest for general hematology, hemophilia, chronic bowel and lung. Scores were lowest for epilepsy (39th), sickle cell (24th), and spina bifida (21st), and these groups had the highest rates of repeated grades and special services. Overall CHC group achievement was unrelated to school absence. A stepwise regression model related demographic and health variables to log of days absent and achievement scores. Achievement was correlated with socioeconomic status, race, grade failure, and type of CHC (r²=.44; p=.0001) while school absence was mainly related to health variables (activity limitation, number of clinic visits, specific CHC) and female sex (r²=.17; p=.0001). For CHC children, demographic factors were important predictors of academic performance. CHC children of low socioeconomic status were at double jeopardy for poor school achievement.