

group made more positive statements about the child's illness.

CONCLUSIONS: Consistent and regular education through interactive teaching methods improves the quality of care for children with epilepsy.

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Classification and Risk Factors for Cerebral Palsy in the Korle Bu Teaching Hospital, Accra: A Case-Control Study

BACKGROUND AND OBJECTIVES: Cerebral palsy (CP) is a lifelong neurodevelopmental condition caused by injury to the developing fetal or infant brain. In developed countries 75% to 80% of cases are as a result of prenatal brain injury. Data from developing countries are limited; however, a higher proportion of affected children may have perinatal or postnatal injury. The objectives were to classify children with CP attending a neurodevelopmental clinic in Accra into clinical subtypes, determine the prevalence of associated impairments, and identify risk factors for CP among the study population.

METHODS: Prenatal, perinatal, and postnatal events were compared between 142 children with CP and 142 age- and gender-matched controls. We assessed clinical subtypes by using the Surveillance of Cerebral Palsy in Europe classification system and evaluated associated impairments. Risk factors were expressed as odds ratios (ORs) with 95% confidence intervals, and a multivariate logistic regression model was used.

RESULTS: Bilateral spastic (60.6%) and dyskinetic CP (20.4%) were the most common clinical subtypes, followed by unilateral spastic CP (10.6%). The prevalence rates of epilepsy and visual and hearing impairments were 40.1%, 23.2%, and 9.9%, respectively. Factors associated with an elevated risk for CP were severe neonatal hyperbilirubinemia (OR = 43.94, $P < .0001$), neonatal seizures (OR = 32.81, $P = .001$), birth asphyxia (OR = 6.69, $P = .027$), irregular menstrual cycle (OR = 4.58, $P = .021$), prematurity (OR = 3.45, $P = .008$), and neonatal sepsis (OR = 2.83, $P = .020$).

CONCLUSIONS: The clinical spectrum of CP in this study cohort differs from that of developed countries with a high prevalence of dyskinetic CP. Severe neonatal hyperbilirubinemia resulting in dyskinetic CP was the most significant and preventable risk factor for CP in this study population.

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Comparison of Polythene Occlusive Skin Wrapping With Routine Cloth Wrapping in Reducing Heat Loss During Transportation in Preterm Neonates (<34 Weeks) After Delivery: Randomized Control Trial

BACKGROUND AND OBJECTIVE: Preterm neonates are most vulnerable to hypothermia, especially in the first hour after birth, during which they are transported to the NICU. Transport incubators are not available in resource-poor settings, and temperature management remains a challenge. The goal of this study was to determine the efficiency of polyethylene occlusive skin wrapping versus routine cloth wrapping during intrahospital transportation after birth on the incidence of hypothermia in preterm neonates (<34 weeks) within 24 hours of life.

METHODS: Preterm neonates (<34 weeks) were randomized into groups receiving either polyethylene occlusive skin wrapping (plastic group) or routine cloth wrapping (control group). Axillary temperature was recorded by using a digital thermometer in degrees centigrade at baseline (just after resuscitation), every 5 minutes in the first hour, and at 2, 3, 4, 5, 6, 12, and 24 hours of life. Interim analysis is presented.

RESULTS: There were 50 neonates in the plastic group and 35 in the control group. A total of 54 (63.5%) were admitted to the NICU, 10 (11.8%) received intermediate care, and 21 (24.7%) received routine care. The mean \pm SD birth weight of the study population was 1663.76 \pm 393.49 g (minimum: 840 g; maximum: 2300 g). Forty-five (52.9%) infants required ventilator support. Mean temperature was significantly higher in the plastic group for most time intervals. The average temperature in the plastic group increased by 0.2 degree, and it decreased by 0.06 degree in the control group during intrahospital transfer. Good thermal control was achieved and maintained in ~10 to 15 minutes for the plastic group versus 35 to 40 minutes for the control group. The incidence of mild hypothermia (29 [82.9%] vs 29 [58.0%]; $P = .015$), as well as moderate hypothermia (27 [77.1%] vs 18 [36.0%]; $P < .001$), was higher in the control group. There was only 1 case of severe hypothermia, which occurred in the plastic group in a neonate weighing 840 g at birth.

CONCLUSIONS: Neonates wrapped in polyethylene occlusive covering achieved rapid thermal control and maintained that control compared with infants wrapped in cloths. They also had a decreased incidence of hypothermia for the initial 24 hours of life. Polyethylene occlusive skin wrapping is an inexpensive, effective, and feasible way of thermoregulation. Further research is needed to establish it at scale.

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Report on Kangaroo Care Practices in a Tertiary Level NICU in Western India—Scope for Improvement

BACKGROUND: High-risk low birth weight neonates admitted to NICUs require prolonged care, which is expensive. Kangaroo care (KC) involves skin-to-skin contact between a family member and the newborn, frequent and exclusive (or nearly exclusive) breastfeeding, and early discharge from the hospital. It has many benefits, with decreased mortality, decreased morbidity, better bonding, early discharge, and rapid establishment of birth weight being the foremost among them.

OBJECTIVES: We studied the association of KC duration with reduced hospital stay and reduced mortality and morbidity, as well as factors governing delivery of KC.

METHODS: Data were collected from the charts of neonates <2 kg who were admitted to the NICU from January 2012 until June 2014. The data included sociodemographic variables, the clinical profile of neonates including treatment, details of KC, and important outcomes such as mortality, weight gain, antibiotic usage, and ventilator care. Descriptive statistics were used to report on the study population profile, and *t* tests and regression were used to explore associations.

RESULTS: A total of 106 neonates were included (68 boys, 38 girls). KC was provided to 52 (49.1%) neonates. Three (2.8%) neonates were term, 49 (46.2%) were late preterm, 34 (32.1%) were moderate preterm, 16 (15.1%) were very preterm, and 2 (1.9%) were extremely preterm. A significant proportion required a cesarean delivery (*n* = 45 [42.5%]). About one-half of the neonates (*n* = 51) required ventilator support, and most neonates (*n* = 69) required continuous positive airway pressure support. The mean \pm SD birth weight of the neonates was 1538.07 \pm 337.88 g. KC was provided for a mean of 13.92 \pm 21.67 hours. The mean duration of KC was significantly greater for neonates who gained weight compared with those who experienced weight loss (20.92 \pm 27.89 hours vs 6.38 \pm 6.38 hours; *P* = .016). The mean duration of KC was significantly greater for neonates who did not require antibiotics versus those who required antibiotics (17.73 \pm 24.68 hours vs 4.23 \pm 3.39 hours; *P* = .002). The mean number of KC hours per day was 2.86 \pm 1.89. Linear regression revealed that mother's age was the only significant predictor of KC

hours per day (*P* = .074). There was no significant difference between mean KC duration for neonates who required ventilator support versus those who did not require it.

CONCLUSIONS: The few hours of KC given per day suggest that this intervention with proven benefits is not being used optimally. Qualitative research is warranted to determine the barriers for this lacuna.

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A Prospective Study of Nosocomial Infection in a Neonatal ICU (NICU)

A prospective study of nosocomial sepsis was performed in the NICU of Surgiscope Pvt. Hospital to determine the organisms causing nosocomial infection in neonates and their resistance patterns; also studied were risk factors, clinical presentation, hematologic parameters, and outcomes over a 12-month period. A total of 363 neonates were admitted to the ICU. A total of 250 blood samples were sent for culture and sensitivity testing in suspicious cases of nosocomial infection. All patients were on antibiotics. Of these, 36.8% (92 of 250) had a positive result on culture. Isolated bacteria were mostly gram-negative bacilli (80.43%) with a marked predominance of *Klebsiella* (*n* = 32 [43.2%]) followed by *Escherichia coli* (*n* = 18 [24.32%]), *Pseudomonas* (*n* = 16 [21.62%]), and acinetobacter (*n* = 5 [6.75%]). Resistance to gentamicin was 100% for all organisms. Resistance to amikacin was 100% for *E coli*, *Pseudomonas*, and acinetobacter and 40% for *Klebsiella*. Resistance of these gram-negative rods ranged from 70% to 100% and 50% to 100% for ceftriaxone and ceftazidime, respectively. Among the culture-positive cases, prematurity (67.39%) and low birth weight (60.86%) were the main risk factors. Refusal to feed (78%) and lethargy (68%) were the 2 main clinical presentations of nosocomial sepsis. It was also observed that in the culture-positive group, 68.5% (63 of 92) had low hemoglobin levels (<14 gm/dL), 18.5% (17 of 92) had leukopenia (total leukocyte count <5000 mm³), and 63% (58 of 92) of patients had thrombocytopenia (platelet count <100 000 mm³), 75% (69 of 92) had an elevated immature to total neutrophil ratio. C-reactive protein was positive in 84.78% (78 of 92) of cases, and 30.43% (28 of 92) of culture-positive neonates died. Mortality was high in preterm low birth weight infants (37% [23 of 62]). Emergence of multidrug-resistant organisms in the ICU is a serious problem causing high mortality and should be prevented with strict

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