

Early growth of very low birth weight infants

Early growth in very low birth weight (VLBW) infants has been found predictive of their later outcomes. This has led to increased interest in establishing measures to optimise such growth. In facilities without the resources required to undertake long-term audits for all the high risk infants they graduate, these growth parameters may also be used as selection criteria for those meriting such follow up reducing costs. OBJECTIVES: To describe early growth patterns among a cohort of VLBW infants and determine some of the factors associated with poor growth among them. DESIGN: Cross section survey. SETTING: Kenyatta National Hospital, Nairobi, Kenya. SUBJECTS: One hundred and seventy five neonatal survivors. RESULTS: Of the 175 infants recruited, the male/female ratio was 4:6, sixty four (36.6%) were intrauterine growth retarded while significant illnesses during the neonatal period were reported in 109 (62.3%). Forty seven percent of the infants had been fed on exclusive breast milk, 33% on mixed feeds while 20% received exclusive preterm formula. The mean neonatal weight gain for the whole cohort was 13.5 (3.9) g/kg/day, length of 0.34 (0.11) cm/week and head circumference of 0.32 (0.71) cm/week. By term only 33 (18.9%), 37 (21.1%) and 48 (28%) had reached the expected (the 3rd percentile) weight, length and head circumference respectively. Sixty percent of the infants gained weight at <15 g/kg/day while 70% and 78% grew in head circumference and length at < 0.5 cm/week respectively. At term weight, head and linear growth faltering were recorded in 81%, 72% and 79% respectively. The factors that were associated with better growth at this stage included feeding on preterm formula ($P < 0.001$) and absence of neonatal morbidity ($P < 0.001$). Infants who were appropriate for gestational age at birth also had better catch up growth at term compared to those born small for gestation ($P < 0.001$) but their neonatal growth itself was not significantly better. CONCLUSION: The mean neonatal growth in all anthropometric measures was less than expected and by the time of their expected delivery, less than 30% of these infants had reached the 3rd percentile of the expected measurement in all the three growth parameters. Choice of milk and neonatal morbidity influenced these growth patterns. RECOMMENDATIONS: Routine fortification of mother's milk or addition of preterm formula and reorganised care of sick newborns is recommended to improve early growth