

# Two year neurological outcomes of Very Low Birth Weight infants

## Abstract:

High risk newborns such as the Very Low Birth Weight (VLBW) require long term follow up to ascertain their subsequent survival and quality of life (based on neurological intactness). Though such data is now standard in the developed world, little is known in published literature about the situation in resource constrained countries. **OBJECTIVE:** To describe the neurological outcomes of VLBW infants evaluated at two years of age. **DESIGN:** Longitudinal descriptive survey. **SETTING:** Kenyatta National Hospital's Newborn Unit during the year 2002. **SUBJECTS:** One hundred and twenty infants born weighing 1000 grams and 1500 grams followed up until the age of 24 months. **RESULTS:** Of the 120 infants evaluated, 14 (11.7%; 95% CI 6.2-17.1) had cerebral palsy, 11 (9.2%; 95% CI 4.8-16.9) were delayed on cognitive assessment while 32 (26.7%; 95% CI 9.3-38.1) were found to have functional disabilities. The factors associated with functional disability in the cohort included; neonatal illness ( $P = 0.005$ , 95% CI 1.26<2.43<4.69), exclusive use of breast milk in the first month ( $P = 0.02$ , 95% CI 1.10<2.04<3.78), neonatal weight gain less than 15 grams/kg/day ( $P = 0.014$ , 95% CI 1.13<2.24<4.42), history of re-hospitalisation ( $P < 0.001$ , 95% CI 1.72<3.33<6.34) and weight less than the third percentile at two years ( $P = 0.019$ , 95% CI 1.09<2.22<4.53). **CONCLUSIONS:** Neurological dysfunction was more frequent in this cohort than presently reported from other centres. The cross-tabulations indicate that history of neonatal illness, choice of early nutrition, slower growth and post discharge morbidity were associated with subsequent neurological dysfunction. The factors associated with developmental delay in this cohort should be explored further in order to determine the manipulations required in the newborn period for improvement of neurological outcomes among these high risk infants.