

**P51**

## **Neurodevelopmental Outcomes in Very Low Birth Weight (VLBW) Infants at Corrected Age of 18 Months**

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### **Introduction**

The emergence of highly specialized care units in neonatal intensive cares has improved the survival of very low birth weight (VLBW) infants, however, improved survival might be associated with increased disability among survivors. Several reports are available regarding their adverse long term neurodevelopmental outcomes and associated risk factors. The purpose of this study was to investigate the neurodevelopmental outcome and associated risk factor of VLBWI at 18 months (corrected age).

### **Methods and Materials**

We performed retrospective study in which we investigated neurodevelopmental outcome in 49 VLBWI who had been followed up for more than 18 months in rehabilitation department from January 2016 to December 2017. Neurodevelopmental outcome including cognition, motor, and language development were assessed at 18 months corrected age using the Bayley II scale and Sequenced Language Scale for Infants (SELSI).

### **Results**

Out of 49 patients followed in the clinic, 25 patients (51.0%) were determined to be developmental delay on mental developmental index (MDI score <85). And 8 patients (16.3%) were determined to be developmental delay on Psychomotor developmental index (PDI score <85). Twenty three patients (46.9%) were determined to be receptive language delay, and 25 patients (51.0%) exhibited expressive language delay. Maternal characteristics including age and comorbidity (hypertension, diabetes mellitus) were not significantly associated with MDI score, PDI score, receptive language quotient and expressive language quotient. Factors were not associated with neurodevelopmental delay included intraventricular hemorrhage, periventricular leukomalacia, bronchopulmonary dysplasia, gestational age and birth weight. On the other hand, the duration (days) of invasive ventilator use was significantly associated with a decreased PDI score (Pearson correlation coefficient, -0.349, P = 0.014).

### **Conclusion**

To increase the survival rate of VLBW infants and effectiveness of early intervention, the risk factors for neurodevelopmental delay should be avoided. Routine neurodevelopmental screening for neonates and infants for early detection of neurodevelopmental delays and appropriate rehabilitation intervention is highly recommended for VLBWI who had invasive ventilator use.