



Building Blocks for Development

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In India out of 27 million children born every year 3.5 million babies are born preterm. These preterm babies (<37 week) are at a higher risk of development delay in comparison to term born infants. According to recent studies children born preterm are at a higher risk of cerebral palsy, development delay, autism spectrum disorder, ADHD, Behaviour concerns and learning difficulties.

As we know early experiences affect the development of the brain. There is constant synaptic connection and pruning happening in utero which continues till the first few years of life. Preterm infants have altered sensory experiences and behavioural response compared to inutero and this has an impact on their developing brain. They are constantly experiencing painful stimuli, handling, movement and their tone is not developed to counteract the force of gravity. All these factors combined can put a stress on the developing system.

The development trajectory of preterm infants is different from infants born at term. Preterm infants may show a delay in multiple development domain including motor, language and cognition. All the development domains are interconnected and a delay in one may have a cascading affect on others.

In the NICU the focus of care should be on developmentally supportive neuroprotective care. There are various assessment tools/scales that can be used to identify kids at high risk of delay and therapy services can be initiated from the nicu.

Received: December 28, 2021

Published: January 13, 2022

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Post Discharge Periodic development assessment assesses the infant's posture, tone, regulation, social, communication, feeding skills, cognition and plays an important role in identifying children at a potential risk of development delay and starting early intervention services and preventing broader development delay. Development assessment looks not just at physical milestones but also at social emotional, cognition, communication, sensory and adaptive development and self help skills.

It is recommended that each child is assessed at birth, 1, 3, 6, 9, 12, 18, 24 and 36 months. This is the stage where rapid development is occurring and synaptic connections are still being formed. Early identification can help in the child receiving effective support to develop their skills and impact their ability to learn, adapt and overcome challenges.

Parent education about age appropriate milestones to watch for, identify if there is any lag or concern is essential. Counselling at discharge, regular follow ups and easy to follow instruction leaflets of home programme and development pathway/trajectory can make it easier for parents to understand.

Who will need regular assessment follow up?

- Ideally all infants should be assessed for their development at regular intervals.
- Preterm babies
- Infants with low birth weight/ Intra uterine growth retardation

- Infants with neurological problem in early neonatal period (neonatal seizures, neonatal hyperbilirubinemia)
- Infants with feeding difficulties
- Failure to thrive
- Milestone delay
- Speech delay
- Infants with sleep and regulation issues.

Who does development assessment?

Development assessment is done by Developmental Paediatrician, Paediatric Physiotherapist and Paediatric occupational therapist. Follow up of at risk infants can be done in the High risk OPD and follow up clinic. Based on the assessment home programme or early intervention can be started to help the infant develop to the best of his potential and to be on par and prevent the need for long term specialized support.

Conclusion

The role of early intervention has been well documented and awareness regarding it has increased over the years. The need of the hour now is to shift from a rehabilitative perspective to pre habilitative one where the focus is on protecting the developing brain and supporting them at each stage of development with age and stage appropriate inputs.

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