Early Intervention in St Lucia – Evaluation of a piloted hospital referral system for at risk infants.

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Objectives – To report on the developmental outcomes of infants referred to a neurodevelopmental follow-up service in St Lucia for the period January 2014 to December 2015.

Introduction – In St Lucia and around the world the survival rate for premature babies has increased, especially for infants of lower gestational ages. Globally these babies face a higher risk of developing long-term neurodevelopmental disabilities. Additionally, developing countries have a higher incidence of birth related developmental problems compared to developed countries. In St Lucia, a developing country, the outcomes of those babies are generally unknown. CDGC is a non-governmental, non-profit health care facility. It is the only centre in St. Lucia providing specialist assessment and therapy intervention for all children with developmental delays. During 2012 and 2013 the average age at referral to CDGC for children under 5 years was 2.2 years. It was recognized that infants at risk due to prematurity and other prenatal and perinatal factors were not being identified early enough and intervention was delayed. Therefore, an early intervention referral service was initiated in January 2014, and every child born with specific developmental risk factors was referred, so that their outcomes could be evaluated and appropriate intervention initiated.

METHOD

Assessment Tool
Bayley III – Scales of Infant and Toddler Development.

A standardized Assessment consisting of 5 scales. The 3 scales used in this evaluation, were examiner administered: Cognitive, Language (Receptive and Expressive) and Motor (Gross and Fine)

Intervention
PT, OT, SLT, Play Therapy

Performance in any of 3 scales under 25% tile

Monitoring Protocol
Developmental Ax by paediatrician & paediatric PT by 3 months corrected

Bayley’s AX at 6 and 24 months corrected

Criteria for Referral
Adapted from US and UK standards

- Gestational age <37 weeks, IUGR (<10th %tile), PNA/HIE, Seizures, Meningitis in neonatal or infant period, IUGR, Abnormal head CT/US, Microcephaly (<10th %tile), Metabolic derangement, Hypoglycemia (>8 hrs), Hyperbilirubinemia requiring exchange, APGAR score <3 at 5 mins, Prolonged ventilation, Hypoxemia (>24 hrs), Hypotonia, Prolonged hypotension (>8 hrs).

RESULTS

Number of children tracked through the monitoring program

- Both 6 month and 24 months Bayley III
- 24 months Bayley III only
- 6 months Bayley III only
- At least one Bayley III assessment
- DNA’d 1st appi (incl death) or Dev Ax
- Excluded due to congenital condition
- Other Referrals of infants < 1 yr
- Neonatal Unit Referrals
- Total Referrals of infants < 1 yr

Distribution of Abnormal and Normal Bayley III Assessments at 6 and 24 months

- 6 months
- 24 months

CONCLUSION

- 66/109 or 60.5% of the children referred from the neonatal unit received at least one developmental assessment with the Bayley-III.

- 24/66 or 35.8% of the children assessed were identified as having abnormal development.

- 39% of all the Bayley Assessments where prematurity was the main risk factor had abnormal assessments compared to only 13% of assessments where PNA was the main risk factor.

- Average age of referral reduced by 0.6 years since the program started. Earlier referrals mean early identification and intervention and increased likelihood of positive outcomes.

- There was high attrition rate most likely due to the fact that it is a new program.

- Future plans: Zika in pregnancy has been added to the referral criteria, so an increase in the number of referrals is anticipated.