

Learning support for children and teenagers born premature – What are their needs?

Introduction

In every classroom, there are likely to be at least four prematurely born children, and one in every hundred will have been born very or extremely premature – a prevalence similar to autism. Although as infants and toddlers, they appear to catch up with their peers, children born three months premature are three to four times more likely to struggle in school than their full term peers. However, few schools ask parents about their child's birth history, which would help educators to be proactive in responding to these children's difficulties.

On 31 January 2013, the SSAT's National Forum for Neuroscience in Special Education, in partnership with Bliss and funded by The Waterloo Foundation, hosted the first UK conference on 'The learning and neurodevelopmental needs of children born pre-term – a conference to bridge thinking and understanding between education and neuroscience across the school years'. Parents, professionals and academics came together to debate these important issues. To find out more, click [here](#).

Supporting children born premature in the classroom

Conference report compiled by Barry Carpenter, iNet Chair in Special and Inclusive Education, SSAT, and Jo Egerton, Research Project Co-ordinator, SSAT

This article is compiled from the presentations to the National Forum for Neuroscience in Special Education Annual Conference, 'The learning and neurodevelopmental needs of children born pre-term – a conference to bridge thinking and understanding between education and neuroscience across the school years'. The Conference was given in partnership with Bliss and generously funded by The Waterloo Foundation.

The presentations (online at <http://www.ssatuk.co.uk/ssat/neuroscience-conference/>) are:

- **'Introduction to children born premature and their learning needs'**: Professor Barry Carpenter, Associate Director (SEN)/iNet Chair in Special and Inclusive Education, SSAT (The Schools Network) UK Ltd
- **'The impact of prematurity on the family and the child as a learner (1)'**: Andy Cole, Chief Executive Officer, Bliss
- **'The impact of prematurity on the family and the child as a learner (2)'**: Nicola O'Connor, parent of a nine-year-old child born premature
- **'Pre-term birth and implications for the development of the social brain – a complex story'**: Dr Patricia Champion MBE, Psychologist/ Founder and Clinical Director Emeritus of The Champion Centre, New Zealand
- **'Pre-term birth: the implications for learning'**: Professor Dieter Wolke, Department of Psychology, University of Warwick
- **'The development of the pre-term brain'**: Professor David Edwards, Institute of Psychiatry, King's College London

More than 50,000 babies are born prematurely each year in the UK (about one in eight children). In the UK, preterm birth is defined as fewer than 37 weeks gestation, very

preterm as 28-32 weeks and extremely preterm as fewer than 28 weeks gestation. Press reports often record children born prematurely at 26, 25 or even 24 weeks, and the Epicure study found that around 53 per cent of these extremely premature infants survive. But what happens when they enter the school system?

Children born extremely preterm are often 'wired differently' and present different profiles of learning need. Even premature children who do not show apparent difficulties have 'persistent and mildly poorer grammatical skills and verbal working memory' (Lee et al., 2011). It is ironic that in infancy these children have enormous amounts of money spent to ensure their survival and health in hospital, yet, once discharged, little is done to support their continuing development.

Andy Cole, CEO of Bliss, the special care baby charity, noted, 'Parents of extremely premature babies are increasingly interested in the longer term educational and developmental needs of their children.' However, educators feel ill-prepared to meet the learning needs of this group of children. A survey by the University of Warwick (Henderson et al. 2012) found that although 89% of 120 teachers said they were likely to teach a child born prematurely, only 6% felt they had received sufficient training.

In every classroom, there are likely to be at least four prematurely born children, and one in every hundred will have been born very or extremely prematurely (similar to autism prevalence). Although as infants and toddlers, they appear to catch up with their peers, children born three months prematurely are three to four times more likely to struggle in school than their full term peers, and these difficulties persist into their teenage years. At 15-16 years they are 2-3 times more likely to have emotional problems (Gardner, 2004). Understanding these problems and their origins has important implications for potential teaching styles and interventions.

Possible barriers to learning for children born premature

To enable children born premature to become effective learners, their learning barriers need to be identified and overcome (Department for Education (DfE), 2012). Yet if educators do not receive training on the learning needs of these children, how can they fulfill these expectations? They need preparation to teach these children differently according to their learning needs.

Children and young people born preterm may have a range of special educational needs, or none at all. The EPICure study, which has followed all children born prematurely in England in 1995, found that, at age 6 years, 32% had mild disabilities, 24% had moderate disabilities and 22 % had severe disabilities; over 50% of children born very or extremely premature survive with disabilities.

Reduced white matter, white matter injury and brain haemorrhaging associated with premature birth can result in developmental delay, motor difficulties (e.g. risk of cerebral palsy), sensory impairment, cognitive and executive function difficulties (e.g. problems with linguistic processing speed, memory), emotional and social processing difficulties (e.g. higher anxiety levels, depression and aggression) and intellectual disabilities. Epicure studies found that 60% of these children develop inattention type attention deficit disorder (non-

hyperactive), and over 10% develop autistic symptoms. At 11 years old, they are likely to need more educational resources than their full-term peers (Johnson et al., 2009).

Ensuring educational support can be a struggle for families. Nicola O'Connor, the parent presenter at the conference, described how her son's 'sleeper' developmental issues, often associated with prematurity, did not become apparent until he started school. His persistent difficulties – with independence, core stability, motor integration, (planning and skills), responses to sensory stimuli, concentrating and learning – set him apart from his peers. They were so severe that the headteacher suggested he repeated the foundation year. Yet, despite the school's backing and well-documented learning issues, the family had to campaign for over 1½ years before the local authority gave their son a statement of SEN with 20 hours of 1:1 support. O'Connor described some of the things the family learned over that time:

- A massively supportive school, experienced and wonderful reception teacher, and the best learning support assistants in the world will change your life
- Repeating the year for our son was the best decision we ever made – he needed time, not a conveyor belt
- Medical, occupational therapy, physiotherapy, speech and language therapy and education professionals need to talk to each other early and often when it comes to any child born before 28 weeks and weighing under a kilo
- Better communication of the long term effects of prematurity is vital for parents to be able to deal with what might be round the corner
- Our son grew into problems caused by his prematurity – according to the literature, a likely outcome for children like him. The system was not ready to catch his fall.

Challenges for educators

For educators, there are a number of barriers within the school system to meeting the needs of children and young people born premature; for example:

- Most schools do not currently ask parents about their child's birth history, which would identify children born premature on school entry, and allow teachers to be proactive
- Without this prior knowledge, educators may dismiss parent concerns about their child's learning, development or behaviour as over-anxiousness.
- Educators may have unrealistic expectations of children whose age is ahead of their developmental abilities due to their premature birth
- There is comparatively little research on how these children develop or on how to implement effective strategies through their school years.

The EPICure study suggests that educational priorities need to be established for this group of learners at different ages and stages of development, and that schools and parents should consider benefits from deferred or delayed school entry. At age 4.5 years, many are not developmentally ready to sit for extended periods, to focus attention, to have their learning directed, and to learn as part of a large group of children.

Finding solutions

As more has become known of the developmental effects of prematurity, the focus of research has begun to shift to interventions. However, research into effective interventions for school-age children and young people is at an early stage. During his presentation, Dieter Wolke suggested the following educational strategies:

- For less demanding tasks, provide reinforcement and structure them to ensure success; for more demanding tasks, personalise and provide support as appropriate for the young person's developmental stage
- Find assessments which take account of cognitive workload demands to provide a more detailed picture of strengths and weaknesses for planning support for children born preterm
- Use adaptive computerised working memory training
- To maintain attention (above IQ as the greatest predictor of educational success), educators need to organise learning tasks in smaller chunks
- Use attention training and focussing tasks
- Support social integration by assisting group work, special peer mentoring, and liaising with parents over activities to increase friends
- Use innovative computer assisted interventions to support social skills and integration
- Children and young people with autistic type features and rigidity may cope better with predictable routines and graded changes

Conclusion

As a result of this conference, the following needs relating to children and young people born prematurely were highlighted:

- The need to raise awareness of the impact of prematurity and the associated educational needs among policy makers, health professionals and educators
- The need to generate action.

This action should include:

- Identification of children born premature on school entry, and continuing regular assessment
- Proactive early identification of emerging motor, communication, cognitive, emotional and social difficulties; some may not appear until pre-teenage years
- Published guidance at all levels of the education system
- A focus on identifying effective teaching and learning strategies
- Professional development for educators
- A transdisciplinary approach – including families and a range of professionals – to establish educational, social and developmental priorities for these children and young people.

Without action, as Andy Cole observes, 'we are asking teachers to teach with one hand tied behind their back. There are children struggling who could learn in a different style.'

This conference was part of a programme of events organized by the National Forum for Neuroscience in Special Education, founded by Professor Barry Carpenter (iNet Chair in Special and Inclusive Education), Professor Francesca Happé (Institute of Psychiatry, London) and Dr Rona Tutt (National Association of Head Teachers). The forum was established to raise professional awareness and to create mutually informed dialogue and practice between neuroscientists and educational professionals in SEN. Information about the Forum, and forthcoming events, can be found at:

<http://www.ssatuk.co.uk/ssat/programmes-support/send/neuroscience-and-special-education-forum/>.

Further information

Articles:

- SecEd Magazine: <http://www.sec-ed.co.uk/best-practice/the-emerging-new-sens-of-students-born-prematurely>;
- Times Educational Supplement: <http://www.tes.co.uk/article.aspx?storycode=6313470>

Webpages

- SSAT conference webpage linked to downloads from speakers: <http://www.ssatuk.co.uk/ssat/neuroscience-conference/>
- Bliss conference webpage: <http://www.bliss.org.uk/2013/02/13/premature-children-at-school/>

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