Functional outcomes after acquired brain injury in childhood: which domains show the most progress?

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Background

• Acquired brain injury (ABI) in childhood results in a range of physical, communication, emotional and cognitive impairments, impacting upon the child’s functional independence (Hayes et al, 2017).
• In the UK children with moderate/severe brain injuries may access a period of residential neurorehabilitation to optimise their recovery and promote participation (NHS England, 2013).

Results

• n=128 (55 female).
• mean age at injury 12.3 years (range 7-17yrs).
• mean length of stay 140.5 days (range 21-630).
• The change between admission and discharge reached statistical significance (p≤0.005) for all items except emotional adjustment.
• Items with the lowest changes were emotional adjustment, social interaction, safety awareness and continence (see fig 1).
• The 10 items that changed the most were all physical based activities (see fig 1).

Conclusion

• Children/young people makes the most progress in the physical areas of their functioning during residential rehabilitation following ABI. These physical activities are often the areas prioritised by the family at this stage of rehabilitation.
• Findings of poor psychosocial outcomes aligns with findings from other studies exploring outcomes at different stages post paediatric ABI.
• Further research is needed to establish how to target interventions, and improve psychosocial and cognitive outcomes for these children/young people.

Aim

To explore which functional areas children with ABI make the most, and least progress, during residential rehabilitation.

Methods

• All children aged ≥8yrs admitted for residential neurorehabilitation between 2012-2016 were included.
• UK Functional Independence Measure and Functional Assessment Measure (UKFIM+FIM) was routinely collected by the clinical team at admission and discharge.
• The UKFIM+FAM - 30 items spanning self-care, continence, mobility, locomotion, communication, cognitive and psychosocial skills.
• Changes in the mean scores for each item at admission and discharge were calculated, and analysed using ANOVA for significance.

References

• Hayes et al (2017) Requirements for and current provision of rehabilitation services for children after severe acquired brain injury in the UK: a population-based study. Archives of Disease in Childhood
• NHS England (2013) NHS standard contract for specialised rehabilitation for patients with highly complex needs (all ages)

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Figure 1: Admission and discharge mean scores (n=128)