

Analysis of Self Concept in Children Sustaining A Brachial Plexus Birth Injury



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Background

The estimated prevalence of brachial plexus birth injuries is 1 to 4 per 1000 live births.¹⁻³

Self concept is defined as “a relatively stable set of attitudes reflecting both description and evaluation of one’s own behavior and attributes”⁴ This encompasses aspects such as self image, social skills, communication, anxiety, adaptability and self conduct.

In an informal study at Miami Children’s Hospital, Lorna Ramos, OT observed a pattern of asymmetry in self portraits drawn by 40 children with brachial plexus injuries.

Based on Ramos’ clinical observations this idea was expanded to examine children’s’ self concept.

To the best of our knowledge, the self concept of children with brachial plexus injuries has not been systematically assessed previously.

Purpose

To assess the self-concept in children with a brachial plexus birth injury.

Methods/Materials

31 children

- 14 males; 17 females
- Average age: 11 years (range 7-18)
- Level of Injury: C5/C6 (19 patients); C5/C6/C7 (7 patients); Global (5 patients)

The following standardized tests were administered and scored:

- Beery-Buktenica Developmental Test of Visual Motor Integration (Beery VMI) preferred hand
- Behavior Assessment for Children (BASC-2) Parent Form
- Draw A Person (DAP) Screening Procedure for Emotional Disturbance (SPED)
- Piers Harris Children’s Self-Concept Scale (Piers Harris)

Results

BEERY VMI

- Age Equivalence ± 6 mos of age: 19%
- Age Equivalence >6 mos above age: 16%
- Age Equivalence >6 mos below age: 65%

BASC

- Behavioral Symptom Index
 - Within Normal Limits: 90%
 - At Risk: 10%
 - Clinically Significant Range: 0%
- Adaptive Skills
 - Within Normal Limits: 90%
 - At Risk: 7%
 - Clinically Significant Range: 3%

DAP:SPED

- Further evaluation:
 - Not indicated: 58%
 - Indicated: 32%
 - Strongly Indicated: 10%

PIERS HARRIS

- Average: 45%
- Low Average: 16%
- High Average/High: 32%

Conclusion

- Affected upper limb asymmetry is a common clinical finding in children who have sustained a brachial plexus birth injury
- Emotional/behavioral testing in this small pilot study demonstrated some psychological issues, however no clearly defined relationship to injury has been established
- Although most children were found to score within normal limits on these tests, there was a small subset that may be at risk for emotional or behavioral difficulties.
- Standardized, psychological screening tests should be considered as part of the rehabilitation program in children with a brachial plexus birth injury
- Members of the team should evaluate, monitor and make appropriate mental health referrals as needed.

1 Greenwald, AG, Shute PC, Shiveley, JL. Brachial plexus palsy: a 10 year report on the incidence and prognosis. *J Bone Joint Surg Br.* 1981; 63:98-101.

2 Levine NG, Holroyde J, Woods JR Jr, et al. Birthtrauma: incidence and predisposing factors. *Obstet Gynecol.* 1984; 63:792-795

3 Kay SP. Obstetrical brachial palsy. *Br J Plast Surg.* 1998; 51: 43-50

4 Piers, EV, Herzberg DS. Piers-Harris children’s self-concept scale (2nd ed). Lost Angeles: Western Psychological Services, 2002; p.3.