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CHR D 2020: Abstract Submission Form

Submitter Name

Tegan Turner

Email

turnert5@myumanitoba.ca

Title

A Systematic Review of Language Abilities in Preschool Children with Critical Congenital Heart Disease

Background

Children with critical congenital heart disease (cCHD) are at increased risk for neurodevelopmental impairments. Studies of children with cCHD have concentrated on motor/cognitive or overall neurodevelopmental outcomes.

Objective

This systematic review summarizes literature specific to language outcomes of preschool children with cCHD.

Methods

We searched Medline, EMBASE, SCOPUS, Child Development and Adolescent Studies, ERIC, PsycINFO, and CINAHL for studies published January 1990-July 1 2020. We included studies of children at age 24 months or less with cCHD plus cardiopulmonary bypass surgery or catheter-based intervention within the first year of life. Language ability was assessed by standardized, validated tools specifying expressive and receptive language outcomes.

Results

Overall 40 articles were included; all measured language outcomes using the Bayley Scales of Infant and Toddler Assessment, III (Bayley III, which in the general population has a mean of 100/SD 15). Only 4 studies concentrated primarily on language outcomes; 36 reported language outcomes within overall development. Age at assessment ranged from 3.5-24 months, with 52.5% of studies focused on 18-24 month-olds. Six studies provided data on biventricular, 5 on univentricular and 29 on both types of cCHD. The weighted mean of the Bayley III language composite score was 90.4 (weighted standard deviation: 3.4), expressive language was 8.6 (sdw=0.80), and receptive language was 9.1 (sdw=0.40). Only 4/40 studies (10%) found the overall mean language composite score to be < 85 (1 SD < population mean), with

most studies reporting composite scores within the lower end of the normal range.

Conclusion

Initial results indicate few articles focus solely on language. Children at the age of 2 years or less with cCHD have low Bayley III language values, scoring almost 10 points below the mean of the general population. Future analysis will expand the age range and determine if demographic and pre-, intra- or post- surgical factors affect language development outcomes.

Theme:

Clinical

Do you have a table/figure to upload?

No

Are you willing to participate in Goodbear's Den?

Yes

Presenter Status:

Undergraduate Students

What was your role in the project?

Design, analyze data, write abstract

Authors

Name	Email	Role	Profession
Tegan Turner	turnert5@myumanitoba.ca	Presenting Author	
Nada Eltobgy	eltobgyn@myumanitoba.ca	Co Author	
Dr. Kelly Russell	KRussell@chrim.ca	Co Author	Associate Professor
Dr. Florencia Russell	fricci@hsc.mb.ca	Co Author	Assistant Professor