Title: Characteristics of Feeding Difficulties in Children with Congenital Zika Syndrome (CZS)

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Introduction: The clinical features of Congenital Zika Syndrome (CZS) include a broad range of anomalies observed in infants who were exposed to the Zika virus (ZIKV) in utero; abnormalities which include microcephaly and other severe neuromotor impairments.1 Swallowing and eating complications are common in pediatric populations with neurodevelopmental disorders, which can lead to adverse health and nutritional outcomes.2 Newborn breastfeeding behaviors may be impacted by the presence of neuromotor complications. Previous studies have explored the type and scope of neuromotor abnormalities that may be associated with in utero Zika exposure, but information is mostly limited to onset of symptoms within the first year of life.3 The limited existing literature on developmental outcomes related to CZS does consistently report oral and eating complications in infants with Zika-associated neuromuscular disease, but little is known about the progression of these complications in children.4 This presentation provides a comprehensive description of the infant breastfeeding history and current eating and feeding difficulties experienced by toddlers with CZS.

Methods: As part of a 5-year longitudinal study, parents of a child with CZS at a multidisciplinary clinic in Northeastern Brazil completed a series of questionnaires and standardized assessments about their child’s health and development. Data was collected from 154 participants, which included parent reports of children’s feeding practices, sleep quality, and sensory processing patterns. The findings describe a sample of children between 19 – 37 months of age who had laboratory confirmed Zika infection and presentation of developmental problems.

Results: 89.5% of mothers in the sample had made attempts to breastfeed their child for at least a week and 60.5% of mothers breastfed their child for at least 3 months. The most common difficulties mothers encountered during breastfeeding included gag reflux (28.6%), excessive spit-up or diagnosis of infant reflux (25.9%), and difficulties with sucking (25.9%) or latching (25.3%). A Chi-square test of independence was performed comparing the proportion of mothers of boys and girls who breastfed for less than or greater than 3 months. The percentage of mothers who breastfed their child for over 3 months differed by sex (X²(1) = 4.78, p < 0.0288), and a greater proportion of girls (63%) than boys (37%) were breastfed beyond 3 months. The most common current feeding issues among children with CZS related to bruxism, gastroesophageal reflux disease (GERD) symptoms, and difficulty swallowing. About 21% of the sample continue to use some type of feeding alternative, most commonly a gastrostomy tube. Among those who do not currently receive alternative feeds, 28.8% have used an alternative at some point in their life. 83.8% of parents reported that their child grinds their teeth regularly, and 58.7% grind their teeth while they sleep. Symptoms of dysphagia are present in several children and approximately 78% are regularly receiving oral-motor therapy from a speech language pathologist. The frequency of symptoms immediately after consuming liquids included: coughing (38.9%), choking (34.4%), labored breathing (10.4%), vomit (8.4%), cyanosis (10.4%), and hiccups (14.9%).

Discussion: These findings provide further understanding of oral-motor and feeding complications requiring complex care experienced by young children with CZS (mean age = 31 months). Early onset of dysphagia and other feeding difficulties that began in the first few months of life in infants with CZS continue to impact their health and well-being in the first 2-3 years of life. Future research can be aimed at measuring the effect of these feeding and swallowing disorders on health-related quality of life including dietary intake, sleep quality, and participation in activities, as well as types of interventions to improve outcomes.

References/Citations:


