

P6

Case Identification and Prevalence of Developmental Delay among Children under 6 in Rural Tamil Nadu: A Cross-Sectional Study

Ramasubramanian Ponnusamy², Sankar Sahayaraj Muthukaruppan², Aravind Bharathwaj², Dinesh Krishna¹, Marie Brien¹, Bala Murugan Poomariappan², Sathiya Mariappan², Sankararaman Srinivasan²

1. Handi-Care International, Toronto, Canada
2. Amar Seva Sangam, Ayikudi, Tamil Nadu, India

Background: UNESCO's State of the Education Report for India - Children with Disabilities 2019 report estimated, based on the 2011 census of India that 1% of children in India between the age of 0 – 4 and 1.5 per cent of children aged between 5 and 9 live with disabilities. Census data from the government of India that there are 1.1 boys for every 1 girl age 0-6 in Tirunelveli District of Tamil Nadu. Studies show that “males have a higher incidence than females of several brain based developmental disabilities including mental retardation, autism, attention-deficit– hyperactivity disorder, and Cerebral Palsy” (V Johnston, MV, 2017).

Objectives:To prioritize early identification and intervention in rural India, a proposed strategy is to:1) Determine if all girls and boys under the age of 6 were given equal opportunity to be screened for development delay.2) Estimate the prevalence of developmental delay in girls and boys in our cohort, as it relates to the known higher incidence of developmental delays in boys.

Methods: This study was conducted in the District of Tirunelveli, State of Tamil Nadu in South India by Amar Seva Sangam (ASSA), an Indian non-government organization. Community-based Rehabilitation Worker's (CRW) performed developmental screening with follow-up evaluation by rehabilitation professionals. Children were identified through screening camps conducted at Primary Health Centres, village sub-centers, nursery/anganwadi and primary schools and from those referred directly by Anganwadi workers and nurses. The Trivandrum Developmental Screening Chart (TDSC), a tool validated for identifying boys and girls with developmental delays in a similar setting using Anganwadi workers in Kerala state, was used for this study. We hypothesized that all boys and girls would attend these centres, ensuring gender equity in case identification. Gender ratios of children diagnosed with developmental delay and enrolled in the program were tracked and compared to gender ratios of developmental delay in similar settings to ensure the gender distribution of this program's beneficiaries fits the norm evidence by other studies.

Results: A total of 52,036 children (26,717 boys) and 25,319 (girls) were screened in case identification camps conducted by ASSA or through direct referrals. The ratio of boys screened to girls screened was: 1.05 boys:1.0 girls. Overall, we identified 1136 children with delayed development out of 52,036 children who were screened or directly referred. This gives a

prevalence rate of 2.1%. A total of 394 girls of the 25,319 screened were identified with delayed development, giving a prevalence rate of 1.55%. A total of 742 boys of the 26,717 screened were identified giving a prevalence rate of 2.7%.

Conclusion: Our results indicate that there was gender parity in screening camps and a higher prevalence rate of developmental delays than previously identified in other large census-based studies, particularly in boys. It is possible that these studies based on the 2011 India census have underestimated the prevalence of children with delayed development.