Growth Parameters Help Predict Neurologic Competence in Profoundly Deprived, Institutionalized Children in Romania

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Abstract 733 *Nutritional Issues in Underserved Populations Platform, Monday, 5/3*

Thousands of children with ill-defined neurologic conditions currently reside in pediatric neuropsychiatric institutes in Romania. A legacy of the the Ceausescu regime, these institutions warehoused orphans from three years of age on deemed neurologically damaged or "irrecuperable" and therefore incapable of productive work. Tragically, many children with delays induced by orphanage confinement during their first three years of life were misclassified as permanently neurologically damaged and placed within these institutions. For the past several years, the Romanian government has attempted to close as many of these institutions as possible, transferring capable children to residential vocational schools or into group homes. However, the effort to identify competent children has been limited by the lack of trained personnel and sufficient funding. At the request of the Romanian government, children in two neuropsychiatric institutes located in central and north-central Romania were examined by a multidisciplinary team. In addition to the physical and neurologic examinations, neuropsychologic tests were utilized including; the Universal Test of Non-Verbal Intelligence (UNIT), Test of Non-Verbal Intelligence (TONI-2), Bender Gestalt Visual Motor Test, Wechsler Intelligence Scale for Children (Perf-WISC-III) and the Childhood Autism Rating Scale (CARS). All children evaluated had been institutionalized since the first year of life. In the central Romanian institution (n=105), 46 children, ≤ 18 years were testable. Eight of the tested

children were deemed neurologically competent. Twelve competent children ≤ 18 years from a neuropsychiatric institute in north-central Romania were added and growth parameters (ht and wt z-scores based on WHO standards and ofc z-scores based on Tanner, 1973) of the competent(C) (n=20, mean age 141±47 m) vs. incompetent(I) (n=38, mean age 130±37m, NS) children compared (t-test). Height {(C)= -2.5±0.82, (I)= -4.2±2.2 (p<0.001); weight {(C)= -1.6±1.3, (I)= -3.0±1.0 (p<0.001), and ofc {(C)= -1.5±1.4, (I)= -2.5±1.5 (p<0.02) were significantly different between the two groups. Adding ht, wt and ofc z-scores, 91% of competent children had a score of ≥-9 and 51% of incompetent children were <-9. In situations where children languish within neuropsychiatric institutes because of inadequate evaluation programs, growth parameters may be an inexpensive means to initially identify neurologically competent children who are capable of living a far more rewarding and productive life outside the orphanage.

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