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Profound, Global Growth Failure Afflicts Residents of Pediatric Neuropsychiatric Institutes in Romania

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Institutional care is know to adversely affect physical growth in early childhood, but there have been few opportunities to study the effects of continuous, severe deprivation during the first two decades of life. At the request of the Romanian government, a multidisciplinary team evaluated residents of two pediatric neuropsychiatric institutes in central and north-central Romania. Pediatric neuropsychiatric institutes in Romania house children felt to be so severely impaired that they require permanent custodial care. Until recently, once placed in such an institution, a child left only at the time of death or transfer to a comparable adult institution. Within these pediatric neuropsychiatric institutes, food is inadequate and formal schooling and rehabilitation unavailable. Most children spend > 90% of their waking hours within the same room with no age-appropriate activities. During the evaluation, growth data were obtained on 59 children and expressed as z-scores (ht and wt z-scores WHO standards, ofc z-scores Tanner 73). All residents studied had been institutionalized since the first year of life. Mean age at the of examination was 133±41 months (range 64-216 m). Growth was profoundly affected by institutional life; height {mean -3.56±2.0 (range -11.2 to -1.1)}, weight {mean -2.47±1.29 (range -6.04 to -0.1)} head circumferenced {mean -2.08±1.53 (range -5.4 to -0.5)}. Height < weight < head circumference z-scores ($p < 0.05$ paired t-test). All three parameters were highly correlated with one another ($r > 0.63$, $p < 0.01$. Triceps skinfold thickness was <

5th%tile in 55% and mid-arm muscle circumference was < 5th%tile in 85% of subjects. Institutionalization in Romanian neuropsychiatric institutes resulted in a more profound effect on linear growth and muscle accretion than on total weight and fat accretion. The abnormal growth pattern of these children suggests a mixed etiology of protein energy malnutrition and abnormal growth hormone secretion/responsiveness due to psychosocial deprivation. In light of the profound stunting and lack of lean body mass, the latter etiology appears predominant.

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