

ABSTRACT

The Activity Levels and Development of Stunted Children in Kingston, Jamaica

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It is frequently assumed that undernutrition in young children leads to poor development through reduced activity. However, there is little evidence supporting this assumption. In this study, the activity levels and behaviour of stunted children and adequately nourished comparison children were compared on enrolment and again after the stunted children received 6 months of nutritional supplementation. Activity levels were measured by extensive observations in the home using an observation instrument which was developed during a pilot phase. Developmental levels of the children were also measured, using 4 subscales of the Griffith's Mental Development Scales.

This study was part of a larger, longitudinal study on the effects of nutritional supplementation and psychosocial stimulation on stunted children. For the study reported here, 78 stunted children (height for age < -2 sd of the NCHS reference), aged 12 to 24 months, were identified by a house-to-house survey of most poor areas of Kingston, Jamaica. They were

randomly assigned to one of three treatment groups of 26 children each: nutritional supplementation, supplementation and psychosocial stimulation, and controls. Twenty-six non-stunted (height for age > -1 sd) children were also identified.

Initially, stunted children were less active than non-stunted ones ($p < 0.01$), but after 6 months their activity levels had caught up regardless of treatment. The developmental quotients of the stunted children were lower than those of the non-stunted children initially, and improved with supplementation alone and more so with both treatments. Initially, activity levels made a significant contribution to the variance in the locomotor subscale only, but not 6 months later. Activity did not predict change in development over 6 or 12 months. These findings therefore did not support the hypothesis that reduced activity leads to poor development in stunted children.

Several significant differences were detected between the behaviours of stunted and non-stunted children, and between their interactions with their caretakers. It is hypothesized that these behaviours, rather than activity, may be important in the mechanism by which undernourished children have poor levels of development.