

THE RELATIONSHIP BETWEEN MOTOR DEVELOPMENT AND NUTRITIONAL STATUS: STUDIES IN PAPUA NEW GUINEA

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The aims of this study were to estimate the median ages of achieving major motor milestones and examine the relationship between nutritional status, feeding practices and motor development. The study was carried out in three rural populations in Madang, Southern Highlands and East Sepik Provinces.

Five major developmental landmarks from early sitting through to walking alone were assessed using an abbreviated version of the Motor Development Index of the Bayley Scales of Motor Development. Feeding practices were assessed by questionnaire, and nutritional status by anthropometry using the Harvard standards.

Children from Madang and Southern Highlands achieved each developmental stage at similar ages, the median age of walking being 14 months. The children from East Sepik Province generally were later in achieving all stages, the median age of walking being 15.8 months. Results are shown in the Table.

Stage	Madang	Southern Highlands	East Sepik
	Median Age (mths) (95% confidence limits)		
Sit support	5.2 (4.8-5.6)	4.7 (4.4-5.0)	4.4 (4.0-4.9)
Sit alone	6.3 (6.0-6.7)	5.7 (5.5-6.0)	7.0 (6.6-7.4)
Crawls	8.4 (8.0-8.8)	8.5 (8.1-8.8)	9.9 (9.5-10.4)
Walk help	11.3 (10.2-11.8)	11.4 (11.0-11.9)	12.4 (11.9-12.9)
Walk alone	14.4 (13.8-15.0)	13.6 (13.1-14.0)	15.8 (15.3-16.3)

A consistently significant relationship between nutritional status and motor development was found for weight and length in all three areas, indicating that at any given age children of higher nutritional status were more likely to have reached a particular developmental stage than their malnourished peers. The ages at which supplementary foods were introduced were markedly different between the three areas. The general pattern is that where children are receiving supplementary foods at a later age, more children have lower nutritional status and motor development is delayed.

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