

# Rural-Urban Migration and Changing Physical Activity among Papua New Guinea Highlanders from the Perspective of Energy Expenditure and Time Use

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We examined the effects of rural-urban migration on nutritional status, daily activity patterns and physical activity levels for a Papua New Guinea Highland population. A large sample ( $n = 353$ ) of adult males and females was selected for anthropometry and a smaller sample ( $n = 56$ ) for behavioral observation in conjunction with heart rate monitoring. Urban migrants had higher body mass index and more body fat than their rural counterparts, particularly the females. The physical exertion index calculated for observed activities using heart rate values was much higher in farming activities in the rural area than in sedentary work activities in the urban area. In addition, walking time was notably shorter in the urban group than in the rural group (118 vs 52 min/day in males and 116 vs 29 min/day in females). Consequently, despite the urban group spending a shorter time resting and a longer time working, their daily physical activity level did not achieve the desirable level (1.75–1.80). It is thus necessary for urban residents to increase walking time to about 2 h per day, the level observed in their rural counterparts.

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