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Association between physical activity, nutritional status and cognitive performance among school children in southern Tanzania

Background

Physical activity (PA) is essential for promoting good health, preventing non-communicable diseases (NCDs), and supporting cognitive development in children. However, in low- and middle-income countries (LMICs) like Tanzania, there is limited evidence on how PA relates to children's health and well-being. This study examined the relationship between PA, nutritional status, and cognitive performance.

Methods

A total of 678 children aged 6–13 years were assessed. Physical activity was measured using a 7-day actigraphy device to capture average daily activity. Cognitive performance was evaluated using the Flanker task, which focuses on executive function domains such as information processing and inhibitory control. Nutritional status was assessed through the Tanita scale and height measuring board. Logistic regression and gamma generalized linear models were used to explore associations.