Validation of common questionnaires assessing physical activity using accelerometer in patients with cerebral palsy

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OBJECTIVES

We aimed to assess the concurrent validity of the questionnaires measuring physical activity (PA) using accelerometer in cerebral palsy (CP) patients.

METHODS

- Nineteen ambulatory patients with CP who were classified as Gross Motor Function Classification System (GMFCS) levels I-III and 84 normally developed participants were included in the study. Normal participants consisted of healthy adults without CP or other neuromuscular diseases.
- Participants wore an accelerometer for 7 days, after which they visited the hospital and completed the International Physical Activity Questionnaire (IPAQ).
- CP patients and their caregivers provided the Pediatric Outcomes Data Collection Instrument (PODCI) and the Caregiver Priorities and Child Health Index of Life with Disabilities (CPCHILDF). The concurrent validity of the questionnaires was assessed.

RESULTS

- PA in CP patients was significantly lower than that of normally developed participants at every intensity level assessed by the accelerometer, while time spent being sedentary was significantly higher (p < 0.001) (Table 1).
- However, PA assessed by the IPAQ was significantly higher than that of normally developed participants (Table 2), indicating that patients with CP tended to exaggerate their PA.
- In the PODCI, transfer/basic mobility, sports/physical function, and happiness increased significantly as the number of steps taken and distance travelled increased (Table 3).

CONCLUSIONS

- Our results suggest that patients with CP have a lower level of PA compared with normally developed participants and that patients tend to exaggerate their PA in self-report questionnaires.
- A key finding was that happiness and quality of life are associated with higher levels of PA, highlighting the need to encourage patients with CP to be physically active.
- Our results could serve as a basis for programs targeting PA in patients with CP.