

Adherence to 24-hour movement guidelines among Japanese elementary and junior high school students

Akira Kyan

A Kyan^{1,2}, M Takakura², M Miyagi³, M Kobayashi⁴

¹Graduate School of Human Development and Environment, Kobe University, Hyogo, Japan

²Faculty of Medicine, University of the Ryukyus, Okinawa, Japan

³Faculty of Education, University of the Ryukyus, Okinawa, Japan

⁴Faculty of Education, Bunkyo University, Saitama, Japan

Contact: a-kyan@pony.kobe-u.ac.jp

Background:

For optimal health benefits, the Canadian 24-Hour Movement Guidelines for Children and Youth (aged 5-17 years) recommend an achievement of ≥ 60 minutes of moderate-to-vigorous physical activity (MVPA), <2 h of recreational screen time (ST), and 9-11 h for 5-13 years or 8-10 h for 14-17 years of sleep time (SLT) each day. There is little evidence showing the proportion of the recommendation in Japan, so we need to investigate. The aim of this study thus was to reveal the compliance to the recommendation with a large sample of Japanese elementary and junior high school children.

Methods:

This study included 2408 students enrolled in fifth grade (aged 10-11 years) in 31 elementary schools, and 4360 students enrolled in eighth grade (aged 13-14 years) in 30 junior high schools. Each behaviour was assessed by a self-reported questionnaire. To analyze the differences in adherence to the recommendation between the school-aged group, we conducted a chi-analysis.

Results:

Overall, only 4% of participants complied with all three recommendations, and 20% of the students did not comply with any of the recommendations ($\chi^2=1390.87$; $p<.001$). Compared with MVPA and ST, SLT had a trend to be likely to achieve the recommendation in each school-age group. Elementary school students had a higher percentage of non-adherence to all recommendations (39%) than junior high school students (10.3%). The adherence to the recommendation of the ST & SLT simultaneously had no differences in each age group (11.5% for elementary schoolers and 12.7% for junior high schoolers). However, adherence to the recommendation of MVPA only, ST only, and MVPA & ST were higher in elementary schoolers, and the adherence to the recommendation of SLT only and MVPA & SLT were higher in junior high schoolers.

Conclusions:

The proportion of adherence to at least one of the three recommendations is better in junior high school students than elementary school students in Okinawa, Japan.

Key messages:

- Health behaviour required improvement may differ by age group.
- It is necessary for particularly elementary school children in Okinawa to take proper countermeasures to improve the movement behaviours.