

## LETTER TO THE EDITOR

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### RECOVERY OF PHYSICAL ACTIVITY AMONG OLDER JAPANESE ADULTS SINCE THE FIRST WAVE OF THE COVID-19 PANDEMIC

Dear Editor,

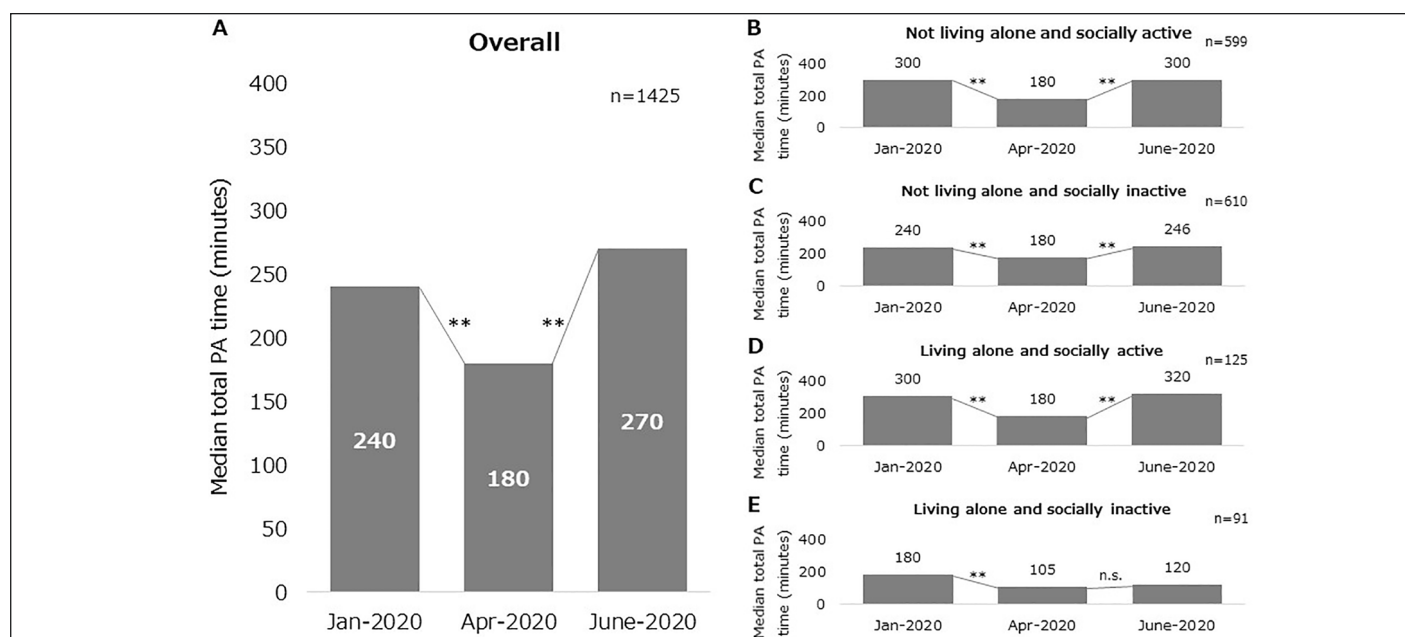
The first wave of the coronavirus disease (COVID-19) pandemic has had a serious impact worldwide. We were concerned with the decrease in physical activity (PA) during the pandemic and the potential for incident disability and the progression of frailty in the older population; therefore, we investigated changes in PA before and during the first wave of the COVID-19 pandemic in older Japanese adults. The data were recently published in this journal as “Effect of the COVID-19 epidemic on physical activity in community-

dwelling older adults in Japan: A cross-sectional online survey,” in which we indicated that the total amount of time devoted to PA in April 2020 (during the first wave of the COVID-19 pandemic) had significantly decreased from that in January 2020 (before the COVID-19 pandemic) among older adults (1). Importantly, this trend has been recognized in many cities worldwide (2).

In Japan, the national government lifted the state of emergency on May 25, 2020. Subsequently, many companies, schools, shopping malls, and restaurants reopened. It was thought that social changes resulting from the first wave of the

**Figure 1**

The median for the total time devoted to physical activity (PA) per week in January, April, and June 2020 for (A) all study participants, (B) older adults who were not living alone and who were socially active, (C) older adults who were not living alone but who were socially inactive, (D) older adults who were living alone but who were socially active, and (E) older adults who were living alone and who were socially inactive. Overall, the total time devoted to PA in June 2020 had recovered to the level before the COVID-19 pandemic (January 2020) for all participants. In a subgroup analysis of the combination of family structure and social activity, the total time devoted to PA fully recovered to baseline among all older adults except those who were living alone and remained socially inactive



\*\* P < 0.001, n.s.: not significant

COVID-19 pandemic enabled PA among older adults to the point that previous levels might have recovered. Therefore, we conducted a follow-up survey in June 2020 (after the first wave of the COVID-19 pandemic) and compared the results with those in January and April 2020. We hypothesized that PA among older adults in June would have gradually recovered since April, except among older adults who were frail, over 75 years old, living alone, and socially inactive.

From June 24 to June 30, 2020, a follow-up online survey was conducted with 1,600 community-dwelling older adults in Japan. The response rate was 89.1%, and data from 1,425 older individuals were analyzed. In this follow-up survey, we investigated PA in June 2020 using a questionnaire based on the short version of the International Physical Activity Questionnaire (3); accordingly, we calculated the total time devoted to PA per week. Additionally, we investigated the family structure (living alone or not living alone) and social activity (communicating or not communicating with neighbors). The Friedman test and Wilcoxon test with the Bonferroni adjustment were used to assess the differences in time devoted to PA at three time points: before (January 2020), during (April 2020), and after (June 2020) the first wave of the COVID-19 pandemic.

The mean age, proportion of women, and mean BMI were  $73.9 \pm 5.6$  years, 49.5% ( $n = 706$ ), and  $22.5 \pm 3.0$ , respectively. Figure 1 shows the median total time devoted to PA in January, April, and June 2020. Overall, the total time devoted to PA in June 2020 (median [interquartile range (IQR)], 270 [100–550] minutes) had recovered to the level before the COVID-19

pandemic (January 2020: 240 [90–480] minutes). We also performed a subgroup analysis according to the combination of family structure and social activity and found that the total time devoted to PA in June (120 [0–315] minutes) did not recover to the baseline level (180 minutes [60–315] minutes) in older adults who were living alone and who remained socially inactive.

The total recovery in time devoted to PA has been realized since the first wave of the COVID-19 pandemic in the older Japanese population. These follow-up results suggest that many older individuals were resilient against the pandemic. This potential is important for maintaining health and activity and preventing several adverse health outcomes, such as incident disability. However, older adults who were living alone and socially inactive were not resilient, and they may be at high risk for incident disability. Therefore, we must promote PA among older adults who strictly follow the stay-at-home policy because of concerns regarding COVID-19 infection, as they are prone to becoming disabled in the future.

*Conflicts of interest statement:* None.

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