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**Key words**

2016; 63(1): 3 10. doi:10.11236/jph.63.1_3

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|---|---|---|---|---|---|---|
| | 6,007 | 10,771 | | 6,703 | 14,362 | |
| | 57.9 | 48.4 | .0001 | 59.0 | 47.5 | .0001 |
| | 44.6 | 30.8 | .0001 | 42.8 | 23.7 | .0001 |
| | 23.4 | 13.5 | .0001 | 18.9 | 8.9 | .0001 |
| | 31.9 | 29.7 | .0001 | 38.7 | 23.5 | .0001 |
| | 34.5 | 25.7 | .0001 | 88.3 | 76.1 | .0001 |
| | 40.0 | 29.7 | | 5.3 | 10.3 | |
| | 25.5 | 44.6 | | 6.5 | 13.6 | |
| | 30.4 | 29.4 | .0001 | 75.0 | 65.7 | .0001 |
| | 4.1 | 2.0 | | 1.1 | 1.8 | |
| | 65.5 | 68.6 | | 23.9 | 32.5 | |
| | 31.5 | 19.0 | .0001 | 30.7 | 16.1 | .0001 |
| | 47.8 | 55.0 | | 47.9 | 51.9 | |
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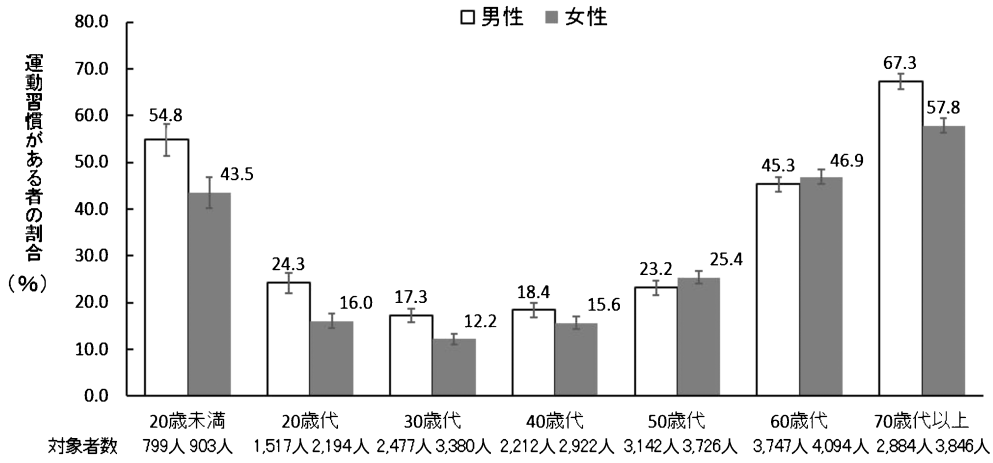
[1] t




46.5 27.0 43.7 3.4
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|---|---|---|---|---|---|
| | ) | [1] ) | | ) | ) |
| 294 | 29.9 | 27.9 | 365 | 31.8 | 29.3 |
| 1,533 | 34.1 | 31.7 | 1,854 | 29.5 | 27.0 |
| 3,175 | 38.1 | 36.6 | 3,941 | 32.5 | 30.9 |
| 5,250 | 35.8 | 35.1 | 6,905 | 31.2 | 30.7 |
| 342 | 33.0 | 34.5 | 435 | 31.0 | 31.2 |
| 533 | 40.5 | 41.3 | 724 | 35.6 | 35.9 |
| 1,269 | 33.6 | 36.6 | 1,494 | 33.9 | 37.5 |
| 244 | 48.4 | 46.5 | 261 | 42.2 | 39.0 |
| 946 | 32.7 | 36.3 | 1,159 | 27.5 | 31.5 |
| 591 | 37.2 | 38.7 | 733 | 33.3 | 35.0 |
| 1,897 | 35.4 | 37.3 | 2,355 | 33.0 | 35.2 |
| 144 | 41.0 | 38.6 | 163 | 49.1 | 43.7 |
| 560 | 31.6 | 33.7 | 676 | 26.6 | 28.1 |

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|---|---|---|---|---|---|---|---|
| | | ) | ) | [1] *P* [2] | | ) | ) | *P* |
| | 14,180 | 36.3 | 35.5 | | 17,254 | 33.1 | 32.1 | |
| | 2,598 | 32.8 | 37.7 | 0.042 | 3,811 | 25.9 | 30.3 | 0.047 |
| | 2,082 | 42.5 | 38.9 | | 2,454 | 42.6 | 36.7 | |
| | 7,066 | 30.9 | 33.5 | 0.001 | 9,160 | 26.5 | 29.6 | 0.001 |
| | 7,630 | 38.5 | 36.9 | 0.138 | 9,451 | 34.2 | 32.5 | 0.001 |
| | 1,906 | 42.5 | 39.1 | | 2,238 | 43.1 | 38.1 | |
| | 4,948 | 31.3 | 34.4 | 0.001 | 6,081 | 28.1 | 31.0 | 0.001 |
| | 7,326 | 38.1 | 36.8 | 0.117 | 8,935 | 34.1 | 33.2 | 0.001 |
| | 176 | 42.0 | 40.7 | | 216 | 37.5 | 31.7 | |
| | 2,118 | 29.9 | 30.8 | 0.006 | 3,079 | 23.4 | 24.7 | 0.015 |
| | 304 | 47.7 | 42.2 | 0.744 | 516 | 36.2 | 30.1 | 0.642 |

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# Association between evacuation condition and habitual physical activity in Great East Japan Earthquake evacuees: The Fukushima Health Management Survey

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Fukushima health Management Survey Group.

**Key words** habitual physical activity, disaster, evacuation condition

**Objectives** Prevalence of life-style disease has increased dramatically in evacuees due to the Great East Japan Earthquake. One reason may be that physical activity level decreased from life environment changes due to evacuation. However, associations between evacuation condition and habitual physical activity have not been studied. We examined this association in Fukushima residents who participated in the Fukushima Health Management Survey.

**Methods** In this study, 37,843 evacuees from 13 municipal evacuation zones from the nuclear-power accident caused by the Great East Japan Earthquake, born before April 1, 1995, were included in the analysis. Evacuation condition was defined by disaster living place (13 zones), evacuation place (inside or outside the prefecture), and current living status (evacuation shelter or temporary housing, rental housing/ apartment, and relative's home or own home). Habitual physical activity was defined from self-administered questionnaires as participants who responded "almost every day" and "2 4 times/week" of regular exercise. In the analysis, habitual physical activity prevalence was aggregated by gender and variables (living place in the disaster, evacuation place, and current living status). Prevalence was adjusted for age, disaster living place, evacuation place, and current living status by standard analysis of covariance methods.

**Results** Adjusted prevalences of habitual physical activity were: men, 27.9 46.5 ; women, 27.0 43.7 in each disaster living place. The differences were 18.6 point in men and 16.7 point in women. For evacuation place, physical activity outside the prefecture for men (37.7 ) and inside the prefecture for women (32.1 ) were higher, but those differences were only 2.2 point and 1.8 point in men and women, respectively. For current living status, physical activity of those in rental housing/ apartment was the lowest; evacuation shelter or temporary housing was the highest in both genders (men: 38.9 , women: 36.7 ). Compared with residents in evacuation shelter or temporary housing, those in rental housing/apartment were 5.4 point and 7.1 point lower and those in relative's home or own home were 2.0 point and 4.2 point lower in men and women.

**Conclusion** Habitual physical activity in residents who lived in 13 municipal evacuation zone differed by disaster living place and current living status, while it was similar regardless of placement in the prefecture. In particular, prevalence was the lowest in participants who lived in rental housing/ apartment. We need to plan and perform additional life-style disease prevention strategies for participants who become isolated.

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