

SUPPLEMENTARY MATERIAL 2

Five dimensions of frailty

This study modified some of those dimensions for context-specific situations in Korea. The five dimensions are weight loss, weakness, exhaustion, slowness and low physical activity. After evaluation of the five dimensions, 'frail,' 'prefrail,' and 'not-frail' individuals were defined as those who met at least three criteria, two criteria, or none of the criteria, respectively. The details of five dimensions are as follows:

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|-----------------------|---|--------------------------|
| Weight loss | Meets criteria for frailty if there was unintentional weight loss of 4.5 kg in the last year | |
| Weakness | Muscle weakness was assessed by the handgrip strength measurement (interpretation of these results took into account sex and BMI). Meets criteria for frailty if grip strength (average of 3 trials, dominant hand) is: | |
| | Men | Women |
| | ≤29 kg for BMI ≤24 | ≤17 kg for BMI ≤23 |
| | ≤30 kg for BMI 24.1–26 | ≤17.3 kg for BMI 23.1–26 |
| | ≤30 kg for BMI 26.1–28 | ≤18 kg for BMI 26.1–29 |
| | ≤32 kg for BMI >28 | ≤21 kg for BMI >29 |
| Exhaustion | Exhaustion was evaluated using a GDS-SF. If the score of GDS-SF was 8 or above, it was considered that there was an exhaustion | |
| Slowness | Walking speed was evaluated by 3 meters walks, considering the characteristics of actual living space in Korea. Meets criteria for frailty if walking speed is lower than 0.8m/sec. | |
| Low physical activity | Low physical activity was evaluated by using the International Physical Activity Questionnaires. The weekly rate of energy expenditure was calculated and compared with reference values by sex. Meets criteria for frailty if physical activity was below 383 kcal for men and below 270 kcal for women. | |

BMI: body mass index, GDS-SF: short form of the Geriatric Depression Scale.