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## The change of rest-activity patterns in older community-dwellers with pre-frailty

Background: Frailty is commonly recognized as a risk factor to increase an incident of various diseases (e.g. cardiovascular disease, stroke, depression and insomnia) in the context of population ageing. We hypothesized that the characteristics in older individuals with frailty might be immanent in the change of lifestyle including rest-activity patterns in their daily life, but a relationship between frailty and rest-activity patterns in their daily life remains unclear. The aim of this study was to examine rest-activity patterns in older individuals with frailty. This is an interim report. Methods: Participants were recruited making public by bulletin from community-dwellers over 60 years old in Akita prefecture, JAPAN. The judgment of Fried et al. (2001) was applied to classify the frailty in the participants, including (1) loss weight, (2) poor energy, (3) low physical activity level, (4) grip strength and (5) slow walk speed. The rest-activity parameters were measured using actigraph's data for seven days, including stability, fragmentation and relative amplitude of rest-activity rhythms. Results: the interim sample size was 13 participants without frailty (mean age: 76.0 years) and 11 participants with pre-frailty (79.3 years). According to the unpaired t test, older individuals with pre-frailty had significantly more fragmented rhythm ( $p = 0.02$ ) than the group without frailty. Additionally, a significant decrease of an average physical activity amount on the most active 10-hours across an average 24-hour profile was observed in older individuals with pre-frailty ( $p = 0.03$ ). Conclusion: This interim report demonstrates the fragmentation of rest-activity rhythm and a decrease of physical activity on daytime in older individuals with pre-frailty. Although few reports are available on the rest-activity rhythm in frailty, this interim report raises the possibility that frailty adults are likely have the change of rest-activity rhythm as well as low activity in their daily life.

### Area of Interest :

Public Health - Aging and Working

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