Oral Communication
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The Importance of Using the Actigraph Devices to Detect the Fall Risk Among Older Adults With Sleep Disorders

Topic: Assistive Products

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BACKGROUND

Falls is prevalent in older adults and associated with common risk factors related to mortality. However, this association might not be presented by the variability of sleep parameters. The study aimed to examine the association between sleep efficiency (SE) variability and number of falls, and to identify the cutoff score for SE variability that predict multiple falls (more than 2 falls).

METHODS

Data from 342 participants aged between 34-84 years (mean age 53.25, 63.5% females) were included. SE variability was calculated by coefficient of variance = (7 nights standard deviation of SE divided by seven nights mean of SE) multiply by 100. Number of falls was used for multiple negative binomial regression analysis. Fallers categories (i.e., non-fallers or single fallers versus multiple fallers) were used to determine the cutoff score for SE variability using area under the curve (AUC) and receiver operator characteristics. Alpha was set at 0.05.

RESULTS

Mean value for SE variability was 10.65% (ranged from 1% to 69%). Number of falls was significantly associated with increased SE variability (incidence rate ratio = 1.02, 95% confidence interval [1.01-1.04], p = 0.027) after controlling for age, gender, body mass index, depression and total number of chronic conditions. The results found that the cutoff score for SE variability that differentiate multiple falls (≥ 2 falls) was 7.38% (sensitivity 0.67; specificity 0.58), and an AUC of 0.61.

CONCLUSION

This study found that increasing in the night-to-night variability of SE was associated with number of falls in general population. The cutoff score of 7.38% for SE variability to differentiate multiple fallers from single or non-fallers. Clinicians may examine the benefit of promoting consistent sleep schedule on fall risk.

Statement of Disclosures

None

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