RELATIONSHIP OF ACCELEROMETER-MEASURED INACTIVITY AND SLEEP EFFICIENCY WITH BODY MASS INDEX IN PREFRAIL ELDERS

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A decrease of body mass and body mass index (BMI) in frail and prefrail elders leads to adverse events, increasing the risk of morbimortality in this vulnerable population. Nevertheless, these events might be also modulated by physical inactivity and sleep quality.
To analyse the relationship between physical inactivity time and sleep efficiency with the BMI of prefrail elders.
This pilot study of the FRAGSALUD project included a first batch of 20 prefrail elders (13 women and 7 men, aged 73±6 years). Prefrailty was classified according to Fried criteria, meeting at least one criteria. Physical inactivity time (min/day) and sleep efficiency values were obtained using a GeneActiv triaxial accelerometer, set to 40Hz, and worn on the wrist of the non-dominant hand, 24 hours a day for seven consecutives days. Body mass and height were registered in order to calculate BMI. Spearman correlations were performed.
Those prefrail elders with higher BMI showed a better sleep efficiency ($r = 0.82$, $p < 0.05$), although without a statistically significant association with inactivity time ($p > 0.05$).
In our study, the higher the BMI presented, the better sleep efficiency achieved by prefrail elders, what has been previously related with a better quality of life and wellbeing. However, although sedentary behaviour and inactivity have been highlighted as relevant health factors, in our patients there was not found a relationship between inactivity and the BMI of prefrail elders. Future results of this project will show the impact on these outcomes of a health educational program in frail a prefrail elders.