

F. MAERTENS, D. GILLAIN, C. MENOZZI, J. PETERMANS. **Geron-techno-prophylaxis?: Study on the potential contribution of actigraphy in improving the quality of care and sleep care for patients in the geriatric department at CHU Liège.** *Gerontechnology* 2016;15(suppl):155s; doi:10.4017/gt.2016.15.s.751.00 **Purpose** To determine if the actimetric measure in hospital ward could assist caregivers in the objectivation of sleep disorders and the utility of psychotropic therapeutics. **Method** to quantify activity and sleep through the Wellness watch Vivago® actimeter of subjects during their hospitalization. Demographic and clinical characteristics were collected at baseline. The psychotropic drugs consumption and the data assessing their sleep were followed. Data were extracting by logiciels SAS® version 9.4 and Statistica® version 10, Mean comparisons tested by the Student t confirmed by the nonparametric Mann-Whitney test when comparing two groups by analysis of variance (ANOVA) confirmed by the non-parametric Kruskal-Wallis if comparing more than two groups. Correlations between variables are confirmed by the Spearman's Rho. **Results & Discussion** 43 Subjects (14 M, 29 F) aged between 76-95 years (mean 87) were followed. We have extracted various indicators from the data and confronted these with demographic and clinical information. The female patients, undernourished, cognitively impaired, dependent and patients with high comorbidity index are significantly associated with increased risk of sleep disorders. A link has also been established between the

self-reported sleep complaints and decreased night sleeping time (sleep duration (NST)=286min (complaints) vs 404min (no complaints), Mann-Whitney test, $p < 0.0001$). Analysing of the hourly level activity of all patients (Figure 1), we note the considerable impact of nurse activity on the patient's one (Figure 1). The visualization of individual's curves of activities has emerged as an effective way to assess the impact of psychotropic treatment (Figure 2).

Conclusion The analysis of collected measures is encouraging and we suggest to promote the use of actigraphy as non-invasive and inexpensive alternative in diagnosis of sleep disorders and in the monitoring of the factual effects of psychotropic medications.

Keywords: sleep disorder, wrist-actimetry, circadian activity, gerontechnology, elderly patients
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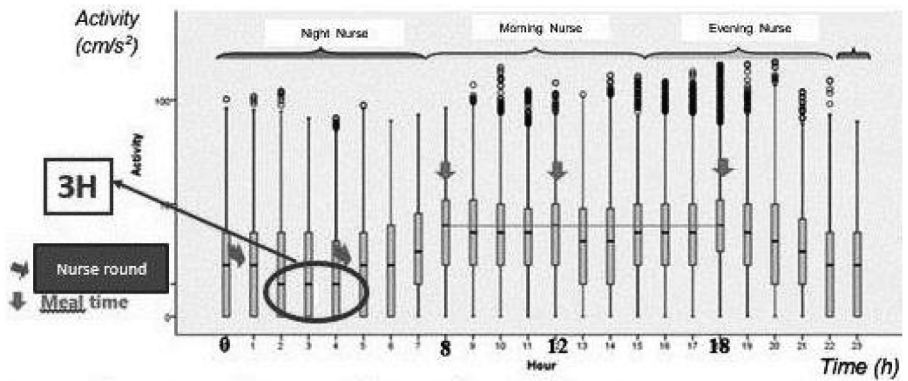


Figure 1. Daily and nightly activity of patients (Box and Whiskers plots)

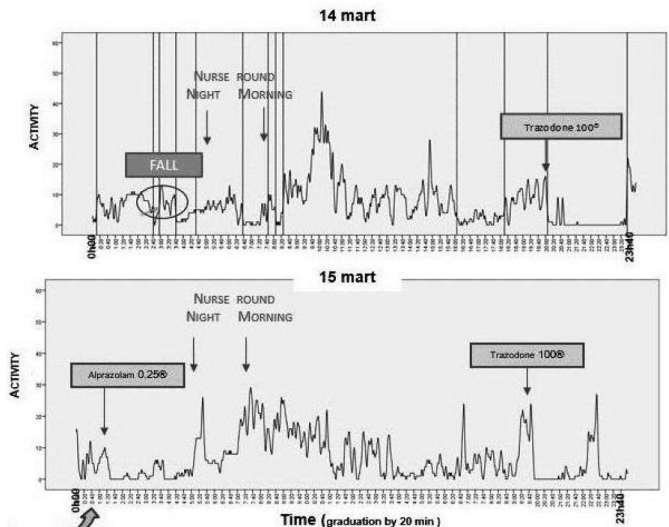


Figure 2. Monitoring of activity curves in relationship with psychotropic drugs intake and nurses observations; sleep complaints at arrow