

Results: 27 patients (20 males) with the age median [min ÷ max] of 56 [34÷82] years and primary NIH stroke scale value of 4 [0÷21] were diagnosed with an acute ischemic medial cerebral artery stroke (19, 70.4%) or vertebrobasilar stroke (8, 29.6%). Control group consisted of 25 gender and age matched participants (17 males) with the median age of 55 [33÷83] years. According to actigraphy-based rest-wake rhythm analysis, there were no significant differences between two study groups regarding average bed times and get up times, total sleep time, sleep efficiency, sleep onset, total number of awakenings, except that controls had shorter wake after sleep onset time than stroke patients (median of 44.25 vs. 62.88 minutes, $p=0.01$). Median melatonin plasma concentrations at four time points at 7, 11 p.m., 3 a.m. and 12 p.m. did not differ significantly between patients and controls, only early morning melatonin concentration at 7 a.m. was significantly lower among stroke patients (median 18.98 vs. 33.22, $p=0.041$). Additionally, cortisol plasma concentration at 7 a.m. was significantly higher in the patient group (median 522.47 vs. 425.57, $p=0.038$). All four clock genes (*ARNTL* (*BMAL1*), *NR1D1* (*Rev-erba/β*), *PER1*, and *PER3*) showed significant time-of-day variation in both patient and control groups. According to the genes expression comparisons between patients and controls, only expression of *NR1D1* (*Rev-erba/β*) at 7 a.m. and *PER1* at 12 p.m. differed significantly (respectively, median 0.2407 vs. 0.3202, $p=0.034$, and 0.2431 vs. 0.6733, $p=0.04$).

Conclusions: Acute ischemic stroke patients tend to preserve diurnal variation of sleep-wake rhythm biomarkers such as actigraphy measures, melatonin and clock genes expression profiles, except early morning time point showing higher cortisol and lower melatonin concentrations and lower *NR1D1* (*Rev-erba/β*) expression, as well as lower *PER1* midday expression in comparison with controls, that might reflect peculiar circadian desynchrony features in different loops of the molecular circadian clock system.

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COGNITIVE ALTERATIONS IN PATIENTS WITH ALTERATIONS IN SLEEP ARCHITECTURE IN A COURT OF COLOMBIAN PATIENTS

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Introduction: Increasing evidence suggests that sleep disorders precede the onset of Alzheimer's disease by years, which is why it has been proposed that patients with alterations in sleep architecture have some degree of cognitive impairment (subjective complaint of memory or cognitive level impairment).

In neurological clinical practice, we observe that sleep studies ordered to rule out OSAHS generally do not show severe alterations in this aspect, but they do show alterations in sleep architecture, mainly low sleep efficiency and N3 sleep proportion. Patients with memory problems may have alterations in the structure of sleep, however it remains unclear if having an affection in the organization of sleep affects the cognition of the subjects. With this work we want to describe the results of cognitive tests in patients with results in sleep architecture.

Materials and methods: Descriptive cross-sectional study, where 160 polysomnographies were reviewed, 68 patients met the inclusion criteria and 31 agreed to the Montreal Cognitive Assessment (MOCA) cognitive test to detect level cognitive impairment and the Hopkins test. For memory evaluation, they cannot have moderate or severe sleep apnea syndrome and cannot be taking medications that cause the sleep-wake cycle.

Results: 77% presented the MOCA test below the normal values validated for the Colombian population, without finding significant differences between patients without OSAHS and with mild OSAHS, with delayed recall being the most affected domain.

Conclusions:

1. 77% of the patients included in the study presented MOCA test values below the normal values validated for the Colombian population.
2. There were no significant differences between patients with AHI <5 and AHI 5 - 15.
3. The Hopkins test was used in the majority of patients with alterations in

the architecture of sleep.

4. Alterations in sleep architecture could be a factor associated with cognitive disorders and thus could motivate a complete neuropsychological assessment.

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COMPARISONS OF SUBJECTIVE AND ACTIGRAPHIC MEASUREMENTS OF SLEEP BETWEEN SHIFT-WORKING AND DAYTIME PSYCHIATRIC NURSES

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Introduction: Shiftwork is known to be one of the common causes of sleep and health problems and finally causes the decreased quality of life. The purpose of this study was to investigate the sleep patterns of shift-working and daytime psychiatric nurses using actigraphy and compare it with subjective assessment for sleep.

Materials and Methods: Twenty-three shift-working and 25 daytime nurses were enrolled. They rated their sleep quality using Pittsburgh Sleep Quality Index (PSQI) and other self-rating scales were measured for psychosocial aspects. Actigraphy was applied to the subjects for a total of 7 days to measure the sleep parameters. They also wrote sleep diaries during the period of wearing actigraphy. Sleep-related parameters of actigraphy, global score and components of PSQI, and the results of other self-rating scales were compared between shift-working and daytime nurses.

Results: Although the global score of PSQI did not show significant difference, the PSQI components showed significant differences between two groups: the shift-working nurses showed lower sleep quality, more sleep disturbance and hypnotic medication use, and worsened daytime dysfunction than daytime nurses. The shift-working nurses showed significantly shorter total time in bed and total sleep time, lower sleep efficiency, and longer average awakening time than those of daytime nurses in actigraphy.

Conclusions: The results showed that shift-working nurses experienced more sleep disturbances in both subjective and objective aspects of sleep than daytime nurses. This study also suggests that actigraphy may be useful to measure the objective aspects of sleep that are difficult to assess with subjective questionnaires alone.

DEVELOPING A MULTIDISCIPLINARY PEDIATRIC CIRCADIAN MEDICINE CLINIC: THE CIRCADIAN AND COMPLEX SLEEP DISORDERS CLINIC

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