

HOSTED BY



ELSEVIER

Available online at www.sciencedirect.com

ScienceDirect

www.elsevier.com/locate/ssci

Relationship between perceived sleep and polysomnography in older adult patients

Mayra dos Santos Silva^{a,*}, Caroline Moreira Bazzana^a, Altay Lino de Souza^b, Luiz Roberto Ramos^a, Sergio Tufik^b, Lígia M. Lucchesi^b, Guiomar Silva Lopes^a

^aDepartamento de Medicina Preventiva, Universidade Federal de São Paulo, São Paulo, Brazil

^bDisciplina de Medicina e Biologia do Sono, Departamento de Psicobiologia, Universidade Federal de São Paulo, São Paulo, Brazil

ARTICLE INFO

Article history:

Received 19 January 2015

Received in revised form

20 April 2015

Accepted 30 April 2015

Available online 15 July 2015

Keywords:

Aging

Sleep

Polysomnography

ABSTRACT

Background and aims: Aging is a multifactorial process that elicits changes in the duration and quality of sleep. Polysomnography is considered to be the standard examination for the analysis of sleep and consists of the simultaneous recording of selected physiological variables during sleep.

Objective: The objective of this study was to use polysomnography to compare sleep reported by senior citizens.

Methods: We selected 40 patients, both male and female, with ages ranging from 64 to 89 years from the Center for the Study of Aging at the Federal University of São Paulo. Patients answered questions about sleep on the Comprehensive Geriatric Assessment and underwent polysomnography.

Results: The results were compared, and agreement between perceived sleep and polysomnography was found in several areas. There was an association between difficulty sleeping and sleep onset latency ($p=0.015$), waking up at night with sleep onset latency ($p=0.005$), total sleep time with daytime sleepiness (0.005) and snoring (0.027), sleep efficiency with sleepiness (0.004), snoring (0.033) and pause in breathing ($p=0.024$), awakenings with snoring ($p=0.012$) and sleep apnea with pauses in breathing ($p=0.001$).

Conclusion: These results suggest that the older adult population have a good perception of their sleep. The questionnaires aimed at this population should be used as an alternative to polysomnography.

© 2015 Brazilian Association of Sleep. Production and Hosting by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

*Correspondence to: Rua Eduardo Cantor, 256 CEP, 02979-180 São Paulo, SP, Brazil.

E-mail address: mayra.santos@ig.com.br (M. dos Santos Silva).

Peer review under responsibility of Brazilian Association of Sleep.

1. Introduction

Aging is associated with a set of morphological and physiological changes resulting from the action of time on living beings, can pass on the various body systems, including on the duration and quality of sleep, with decreased slow-wave sleep, fragmented sleep, increased sleep latency and periodic leg movements, with effects on metabolic function and immune responses [1,2]. Moreover, older people are more alert in the early morning, but sleepier in the early afternoon and also experience daytime sleepiness [3,4]. In a study from the National Institute on Aging involving more than 9000 individuals aged 65 and older, it was reported that more than 50% of participants had at least one chronic sleep complaint [5].

Typical sleep problems in the older adult include difficulty falling asleep and maintaining sleep, early-morning awakening and excessive daytime sleepiness [6]. A variety of processes may interfere with sleep and wakefulness in the older adult. Among these processes, we can list acute and chronic medical illnesses, medication effects, psychiatric disorders, primary sleep disorders, social changes, poor sleep habits and circadian rhythm shifts [7,8].

Several generalizations can be made regarding aging and sleep characteristics, however, there are controversies regarding the sleep time required for the older adult. According to Guimaraes et al. [9], there is definitive evidence that the required amount of sleep decreases with the aging process. However, it seems that the older adult generally has a shorter duration of sleep, increased nocturnal awakenings, and consequently more naps. Unruh et al. stated that sleep efficiency, which is the ratio between the time that the person can actually fall asleep and time spent in bed with the intention of sleeping, appears to be reduced in older adult and the difficulty of maintaining nighttime sleep contributes to the decrease in the quality of sleep [10]. Overall, the sleep-wake cycle in the older adult may be fragmented, with interrupted nighttime sleep and daytime sleepiness interrupted by naps. The deepest stages of non-REM sleep are frequently reduced or nonexistent in older adult; however, the REM sleep tends to be preserved [11]. Authors believe these changes in the sleep of older adult may be due to alterations in the quality of transmission of afferent information from the retina to the optic central markers (Suprachiasmatic nucleus), which lose their ability to respond to information, changing the sleep-wake cycle, as well as environmental, behavioral, social and physical changes [12,13,6].

Among sleep disorders, obstructive sleep apnea syndrome (SAOS) is very common among the older adult [14,15]. SAOS occurs when there is a repeated obstruction of the upper airway during sleep for 10 s or more, accompanied by oxyhemoglobin desaturation, causing micro-arousals and awakenings. SAOS may be followed by daytime sleepiness and fatigue, an increase in naps and increased cardiovascular morbidity and mortality [16,17]. In the older adult, there is still no consensus on the diagnostic criteria for sleep apnea. Some authors consider the values similar to adults, i.e., an index of apnea/hypopnea episodes per hour up to 5 is considered to be normal, from 21 to 50: moderate, over 50 are considered to be high [18].

Table 1 – Relationship between polysomnography and comprehensive geriatric assessment.

Polysomnography variables	Difficulty sleeping			Waking up at night			Difficulty sleeping and waking up at night			Sleepiness		
	Yes Mean±SD	No Mean±SD	P	Yes Mean±SD	No Mean±SD	P	Yes Mean±SD	No Mean±SD	P	Yes Mean±SD	No Mean±SD	P
Sleep onset latency	74.0±75.6	27.8±29.3	0.015*	51.30±68.31	31.94±34.76	0.005*	29.96±23.52	31.94±34.76	0.278	30.32±38.95	32.82±37.61	0.976
Total sleep time	304.43±89.14	297.40±74.44	0.409	314.66±106.49	297.40±74.44	0.162	304.83±80.08	297.40±	0.931	287.73±205.05	311.17±63.56	0.005*
Sleep efficiency	71.12±21.46	69.44±17.34	0.399	69.40±25.16	69.44±17.34	0.158	67.92±18.04	69.44±17.34	0.933	59.8±24.1	76.41±10.5	0.004*
Stage 1	17.31±11.77	17.17±11.59	0.962	14.61±7.22	17.17±11.59	0.249	19.94±12.13	17.17±11.59	0.889	19.52±11.27	16.26±10.83	0.572
Stage 2	48.05±12.82	42.51±12.30	0.868	42.61±14.63	42.51±12.30	0.885	43.32±7.46	42.51±12.30	0.075	47.67±11.86	41.52±11.18	0.98
Stage 3	21.21±14.52	22.87±8.96	0.249	28.77±19.17	22.87±8.96	0.095	20.79±12.98	22.87±8.96	0.141	17.84±11.56	25.77±12.28	0.895
REM	18.04±7.0	18.68±6.55	0.629	16.86±5.23	18.68±6.55	0.78	15.93±5.10	18.68±6.55	0.599	16.17±5.92	18.65±6.08	0.734
Awakenings	117.88±62.28	83.16±55.38	0.453	59.67±20.93	83.16±55.38	0.139	131.11±64.40	83.16±55.38	0.61	92.47±50.61	99.04±64.27	0.372
Leg movements	34.97±48.08	17.75±29.79	0.261	5.46±9.96	17.75±29.74	0.192	23.63±20.28	17.52±29.74	0.732	31.12±31.46	14.65±29.54	0.537
Apnea/hipopnea index	16.46±14.68	19.62±21.35	0.226	11.53±13.44	19.62±21.335	0.192	27.54±21.32	19.62±21.35	0.452	19.53±18.36	19.57±20.14	0.931

Data represented as mean ± standard deviation. P: 0.005.

Download English Version:

<https://daneshyari.com/en/article/3026598>

Download Persian Version:

<https://daneshyari.com/article/3026598>

[Daneshyari.com](https://daneshyari.com)