

## SLEEP PERCEPTION IN PATIENTS WITH DIFFERENT SLEEP DISORDERS

H. Schulz<sup>1,2</sup>, B. W. Walther<sup>1</sup>, C. Witzenhausen<sup>1</sup>, D. Weigand<sup>2</sup>, L. Michael<sup>2</sup>

<sup>1</sup>Helios Klinikum Erfurt, Department of Neurology, Erfurt, Germany

<sup>2</sup>Free University Berlin, Institute of Psychology, Berlin, Germany

**Objectives:** Sleep is a state of reduced or altered (e. g. dreaming) consciousness. Yet, there is a remarkable number of normal subjects reporting that they were laying awake, when woken up from consolidated sleep and interrogated (1). In an earlier study from our laboratory with four awakenings per night, we found that in normal young sleepers, the judgement of having slept was highest when awakened from REM sleep (82%) and lowest after an arousal (36%), with intermediate positions for awakenings from short (50%) and long episodes of stage 2 sleep (64%)(2). The objective of the present study was to assess sleep perception after deliberate awakenings in patients with different forms of sleep disturbances

**Methods:** Sixty-four patients (23 males, 41 females; mean age: 49 years, range: 21–72 years) with a disorder of dyssomnia or parasomnia (insomnia, n = 26; RLS/PLMS, n = 10; sleep apnea syndrome, SAS, n = 4; narcolepsy/hypersomnia, n = 16; other dyssomnias/parasomnias, n = 7), were deliberately awoken once during the second night in the sleep laboratory. Awakenings were performed either after 10 minutes of uninterrupted stage 2, or REM sleep, preferentially in the second or third NREM-REM sleep cycle. The technician opened the door, called the patient by his or her name and started immediately with questioning the patient, who had been informed on the procedure and the questions before retiring. Awakenings out of REM or stage 2 sleep were randomised across patients.

**Results:** In 61 cases patients were able to make a utilisable statement on the behavioural state before the awakening. Forty-eight (78.7%) reported having slept, while 13 (21.3%) were awake. The judgement of having slept was much higher in REM sleep (93.1%) than in S2 sleep (65.6%). Patients with insomnia or RLS/PLMS (group A; n = 34 judgements) were descriptively compared with patients with narcolepsy, hypersomnia, or SAS (group B; n = 16 judgements). Both groups gave more sleep judgements when aroused from REM sleep (group A: 87.5%, group B: 100%) compared to stage 2 sleep (group A: 50%, group B: 83.3%).

**Conclusions:** A substantial rate of sleep state misperceptions was only seen in patients with insomnia or RLS/PLMS, while those with narcolepsy, hypersomnia or SAS reported preferentially of having slept before the deliberate awakening. Wake judgements occurred mainly in stage 2 sleep, and clearly more frequently in group A (50%) than in group B (11.1%). In contrast, the congruence between electrophysiologically defined and subjectively perceived sleep was very high for REM sleep. In this sleep state 87.5% of group A patients and 100% of group B patients reported having slept.

**References:** (1) Sewitch DE. NREM sleep continuity and the sense of having slept in normal sleepers. *Sleep* 1984;7:147-154.

(2) Amrhein C, Schulz H. Selbstberichte nach dem Wecken aus dem Schlaf – ein Beitrag zur Wahrnehmung des Schlafes. *Somnologie* 2000;4:61-67.

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THE CONGRUENCE BETWEEN PERCEIVED SLEEP AND ELECTROPHYSIOLOGICALLY MEASURED SLEEP WAS CLOSER FOR REM THAN FOR STAGE 2 SLEEP, AND DISCREPANCIES BETWEEN MEASURED AND REPORTED SLEEP WERE PRONOUNCED IN PATIENTS WITH INSOMNIA BUT NOT IN THOSE WITH EXCESSIVE SLEEPINESS.

Sleep perception, subjective experience, sleep stages, mental activity