

Epworth Sleepiness Scale discrimination thresholds reported to sleep parameters

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Introduction :

Discrimination threshold of Epworth Sleepiness scale is frequently defined as a value ≥ 10 . This seems to be in agreement with the Johns findings (1). But a second cutting point of 14 was evoked in the same paper. The mean of our work consist to iteratively determine the best cutting edge of ESS in regard with objective sleep parameters.

Methods :

From a 314 subject Epworth Sleepiness Scale database and Continuous Recordings Iterative Sleepiness Tests we search post-threshold discrimination subjective scales. The population is distributed iteratively into two groups by varying the discrimination threshold (from 0 to 24). Objective parameters (Sleep Latency, Total Sleep Time, duration of REM sleep) are compared between the two groups of subjects. It retain the probability associated with this comparison (p) between the two groups of subjects for the threshold considered. A graphical representation of the evolution of this probability as a function of threshold is done (fig 1).

Results :

There is the presence of two discrimination thresholds ($p < 0.05$) for which there is a significant difference of all the parameters of sleep between the groups for which epworth score is below and above the threshold. These threshold are respectively 7 and 14.

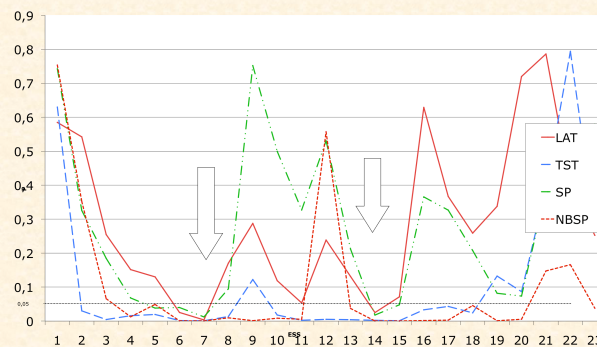


Fig 1 : ESS discrimination threshold reported to sleep parameters (SL: sleep latency, TST: total sleep time, SP: Rem Sleep duration, Rem Sleep count during latency tests)

Discussion :

The thresholds of discrimination highlighted the epworth scale ($\leq 7, \leq 14$) are consistent on the one hand with the results observed in control subjects (5.9 ± 2.2) by Johns (1); secondly with the results of Chervin & al (2)

Conclusion :

The segmentation of the study population in terms of discrimination thresholds determined for the Epworth scale highlights a significant relationship between the sleep latencies and sub groups of patients so consistent with the validation of the Epworth Sleepiness Scale (1)

Bibliography :

- (1) : A new method for measuring daytime sleepiness : the Epworth Sleepiness Scale. Johns MW. Sleep. 1991 Dec; 14(6):540-5
- (2) : Comparison of the results of the Epworth Sleepiness Scale and the Multiple Sleep Latency Tests. Chervin R.C., Aldrich M.S., Pickett R, Guilleminault C. Journal of psychosomatic research, vol 42, N° 2, pp 145-155, 1997.