EDITORIAL

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Abuse of the Epworth Sleepiness Scale

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Abuse can be defined as "Improper use or handling" or "An unjust or wrongful practice."[1] By either of these definitions, the Epworth Sleepiness Scale (ESS)[2] is being abused. How and by whom you may ask? The answer, insurance companies and their surrogates, and we, sleep clinicians, are complicit in these activities.

One of the consequences of the prior authorization process implemented by many insurers for approval of diagnostic sleep testing is the requirement for completion of the ESS on the request form. How this information will be used is usually not documented on these forms, but one could surmise that the ESS is the metric by which the insurer assesses whether or not the patient is sleepy. If this is true, it is a prime example of using a tool for a purpose for which it was not intended. As originally described by Dr. Johns, the "questionnaire should be useful in elucidating the epidemiology of snoring and OSAS, and any associated cardiovascular or cerebrovascular risks."[2] To my knowledge, it was never designed as a sole instrument to determine whether a patient is or is not sleepy for the purpose of approving diagnostic testing. For this purpose, it is actually a poor instrument.

Virtually all prior authorization requests to perform a sleep study are for the purpose of confirming a diagnosis of obstructive sleep apnea (OSA). Sleepiness is one of the common symptoms of OSA. However, there are several issues with including a request for the ESS to document sleepiness. First, the correlation of the ESS with physiologic sleepiness is inconsistent. Some studies fail to show an association,[3,4] while others have found a relationship albeit imperfect.[5,6] Second, only approximately 40% of persons with severe OSA will have an ESS greater than 10 (a commonly used cutoff to denote sleepiness). Importantly, some individuals with low ESS scores will give a positive response to a different question regarding sleepiness.[7] Moreover, there are gender differences in the presentation of OSA. Although daytime sleepiness appears to occur with equal prevalence between men and women, women may emphasize fatigue and lack of energy in describing their symptoms.[8] This is reflected by a lower likelihood to have an ESS indicative of sleepiness.[9] Hence, if the ESS is used to confirm sleepiness and sleepiness is a requirement for a sleep study, this might contribute to a greater gender disparity in the diagnosis of OSA. Finally, the ESS has much less value as a screening tool for OSA than other instruments such as the STOP-BANG questionnaire.[10,11]

Certainly, there needs to be adequate clinical justification for requesting a sleep study of any type. Excessive daytime sleepiness is one of the cardinal symptoms of OSA. Documentation of its presence is important. However, using a tool such as the ESS with inadequate sensitivity and specificity as the sole evidence for sleepiness is inappropriate, especially if a low score results in denial of authorization to perform a sleep study. Sleep clinicians should stop facilitating this practice, and try to educate insurers about what information is useful for making such decisions.

CITATION

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REFERENCES

1. Abuse Definition. http://www.thefreedictionary.com/abuse. Accessed 8/21/2013.
2. Johns MW. A new method for measuring daytime sleepiness: the Epworth sleepiness scale. *Sleep* 1991;14:540-5.
3. Fong SY, Ho CK, Wing YK. Comparing MSLT and ESS in the measurement of excessive daytime sleepiness in obstructive sleep apnoea syndrome. *J Psychosom Res* 2005;58:55-60.
4. Benbadis SR, Mascha E, Perry MC, Wolgamuth BR, Smolley LA, Dinner DS. Association between the Epworth sleepiness scale and the multiple sleep latency test in a clinical population. *Ann Intern Med* 1999;130:289-92.
5. Aurora RN, Caffo B, Crainiceanu C, Punjabi NM. Correlating subjective and objective sleepiness: revisiting the association using survival analysis. *Sleep* 2011;34:1707-14.
6. Johns MW. Sleepiness in different situations measured by the Epworth Sleepiness Scale. *Sleep* 1994;17:703-10.
7. Kapur VK, Baldwin CM, Resnick HE, Gottlieb DJ, Nieto FJ. Sleepiness in patients with moderate to severe sleep-disordered breathing. *Sleep* 2005;28:472-7.
8. Ye L, Pien GW, Weaver TE. Gender differences in the clinical manifestation of obstructive sleep apnea. *Sleep Med* 2009;10:1075-84.
9. Baldwin CM, Kapur VK, Holberg CJ, Rosen C, Nieto FJ, Sleep Heart Health Study Group. Associations between gender and measures of daytime somnolence in the Sleep Heart Health Study. *Sleep* 2004;27:305-11.
10. Vana KD, Silva GE, Goldberg R. Predictive abilities of the STOP-Bang and Epworth Sleepiness Scale in identifying sleep clinic patients at high risk for obstructive sleep apnea. *Res Nurs Health* 2013;36:84-94.
11. Silva GE, Vana KD, Goodwin JL, Sherrill DL, Quan SF. Identification of patients with sleep disordered breathing: comparing the four-variable screening tool, STOP, STOP-Bang, and Epworth Sleepiness Scales. *J Clin Sleep Med* 2011;7:467-72.

DISCLOSURE STATEMENT

Dr. Quan is the Editor-in-Chief of the *Journal of Clinical Sleep Medicine*.