

Summary of Validation Studies – Berlin Questionnaire

Using the Berlin Questionnaire to Identify Patients at Risk for the Sleep Apnea Syndrome

Netzer, N.C., Stoohs, R.A., Netzer, C.M., Clark, K., Strohl, K.P.

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Prevalence of Symptoms and Risk of Sleep Apnea in Primary Care

Netzer, N.C., Hoegel, J.J., Loubé, D., Netzer, C.M., Hay, Birgit, Alvarez-Sala, R., Strohl, K.P.

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According to Netzer, et al., there is evidence that the prevalence of OSA in primary care offices is higher than in the community. In the 1999 Annals of Internal Medicine study, 744 patients in five primary care sites in Cleveland, Ohio, were surveyed, of whom 100 underwent sleep studies. Of the 744 respondents, 297 (37.5%) were in the high-risk group. The high-risk group for OSA was comprised of patients with persistent and frequent symptoms in two of the following three categories: presence and frequency of snoring; wake-time sleepiness or fatigue; and a history of obesity or hypertension.

Being in the high-risk group predicted an RDI greater than 5 with a sensitivity of 86%, a specificity of 77%, a positive predictive value of 89% and a likelihood ratio of 3.79.

In the Chest 2003 study, data was collected from 6,223 consecutive patients who were >15 years of age, in 40 offices and clinics in the United States, Germany and Spain. This is the first large data set providing information collected by a standardized protocol on snoring, sleepiness and other features associated with sleep apnea across many primary care sites.

The results show that one-third of participants (32%) had a high pretest probability for OSA with a higher rate in the United States (35.8% of 3,915 participants) than in Europe (26.3% of 2,308 participants). Other categories measured sleepiness (32.4% vs. 11.8%, respectively), followed by obesity and/or hypertension (44.8% vs. 37.1%), contributed to the OSA risk differences between participants in the US and Europe, as frequent snoring and pauses in breathing were similarly reported.

Conclusion

Primary care physicians in the United States and Europe will encounter a high demand for services to confirm or manage sleep apnea, sleepiness and obesity. The Berlin Questionnaire provides a means of identifying patients who are likely to have sleep apnea.