Evaluation of Sleep Disorders in the Primary Care Setting: History-taking Compared to Questionnaires

Egambaram Senthilvel MD, Dennis Auckley MD, Jaividhya Dasarathy MD
Case Western Reserve University, MetroHealth Medical Center, Cleveland, OH

Introduction

• Sleep disorders are highly prevalent, though the majority of patients remain undiagnosed.
• In the primary care setting, it is believed that little time is spent screening for sleep disorders.

Hypothesis

• We hypothesized that primary care provider (PCPs) do not routinely evaluate for sleep disorders in new patients.
• Validated questionnaires could efficiently identify individuals with sleep disorders warranting further evaluation

Methods

• New adult (ages 18-65) patients seen in a primary care clinic at an urban academic institution were recruited.
• Patients were approached during checkout and asked to complete the Cleveland Sleep Habits questionnaire (CSHQ) (includes Berlin questionnaire and Epworth Sleepiness Scale or ESS) and the STOP questionnaire.
• Patients were timed while completing each questionnaire.
• The new patient encounter was reviewed for elements of a sleep history, sleep review of systems, and/or sleep workup

Results

Subject Characteristics (N = 101)

Demographics
Age (yrs) 38 (+/-12.9)
Gender (%)
Male 43
Female 57
Race (%)
White 46
African-American 38
Hispanic 11
Other 5
BMI >30 (%) 44
Co-morbidity (%)
Hypertension 22
Diabetes Mellitus 8
Hypothyroidism 3
Coronary artery disease 0
Heart failure 0
Arrhythmias 0
Obstructive sleep apnea 3
Restless leg syndrome 0
Insomnia 5
Habits (%)
Smoking 51
Alcohol 39
Illegal drug use 1
Caffeine 93

Specialty Referrals and Diagnostic Workup

Specialty referral (%)
Sleep Clinic 2
Psychiatry 7
Pulmonary Clinic 0
Otolaryngology 0
Neurology 0

Diagnostic work up (%)
Polysomnogram 1
TSH 1
Ferritin 0

Prevalence of Sleep Symptoms: CSHQ vs. PCP

<table>
<thead>
<tr>
<th>Symptom</th>
<th>CSHQ (%)</th>
<th>PCP (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Snoring</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>Apneas</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td>EDS</td>
<td>30</td>
<td>0</td>
</tr>
<tr>
<td>Unrefreshing</td>
<td>40</td>
<td>0</td>
</tr>
<tr>
<td>Insomnia</td>
<td>50</td>
<td>0</td>
</tr>
<tr>
<td>RLS sxs</td>
<td>60</td>
<td>0</td>
</tr>
<tr>
<td>Narcolepsy sxs</td>
<td>70</td>
<td>0</td>
</tr>
</tbody>
</table>

Diagnosis of Sleep Disorders: STOP vs. CSHQ vs. PCP

<table>
<thead>
<tr>
<th>Disorder</th>
<th>STOP (%)</th>
<th>CSHQ (%)</th>
<th>PCP (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSA</td>
<td>10</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Insomnia</td>
<td>20</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>RLS sxs</td>
<td>30</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Narcolepsy</td>
<td>40</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Time to Complete: STOP vs. CSHQ

<table>
<thead>
<tr>
<th>Time (Seconds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>STOP</td>
</tr>
<tr>
<td>50</td>
</tr>
</tbody>
</table>

Conclusions

• Sleep disorders are common but are not routinely screened for in the primary care setting during new patient evaluations.
• The use of validated questionnaires may help to efficiently identify common sleep disorders in these patients.