CME on Excessive Sleepiness and Sleep-Wake Disorders Can Address Gaps in Clinical Knowledge and Competence

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Introduction

Excessive sleepiness (ES) is reported by 21% of women and 30% of men in the United States.[1] Common causes of ES include insufficient time allocated for sleep, sedating medications, and sleep-wake disorders (SWDs).[2-4] The psychological, cognitive, and physiological consequences of ES are significant, with considerable health, safety, social, and economic consequences.[2,5] Despite its high prevalence and associated morbidity, ES is underdetected and SWDs are underdiagnosed and undertreated.[2,6] Such suboptimal clinician performance is related to a number of clinical practice gaps, many addressable via continuing medical education (CME).[7]

To address relevant clinical practice gaps pertaining to ES and SWDs, we previously sponsored a CME activity with over 1,000 participants and reported on its education effectiveness.[7] Results from posttests (n = 824) and activity evaluations (n = 534) showed that the activity resulted in improved clinical knowledge and competence related to sleep disorders; the greatest improvements were in the areas of screening and identification. Results of that educational effectiveness study also revealed topical areas where supplemental educational strategies would be useful. These included the importance of using validated tools to assess sleep symptoms and architecture, the value of referral to a sleep specialist, and support for close collaboration between primary care providers and sleep specialists.

To more precisely delineate the educational needs from the learner's perspective, this needs assessment investigation was performed to answer the central question—"What do practicing clinicians believe are best educational strategies for influencing their practice behavior regarding management of SWDs?"

Methods

Survey Development and Launch

We developed a structured survey that was targeted to primary care clinicians and based on ongoing educational need concepts that had emerged from our 2010 publication.[7] The survey included a total of 12 items—seven that collected demographics and practice characteristics, three asking for self-assessment of current clinical competence, and two related to sleep medicine education (Table 1).

Table 1. Survey Items on Self-Assessment and Medical Education
Knowledge level for 5 core topics
Confidence in implementing 5 clinical strategies
Perceived value in use of 5 clinical strategies
Participation in hands-on sleep medicine education
Suggested types of helpful CME activities on sleep medicine topics

In December 2011, we queried the proprietary learner database at CME Outfitters to captured e-mail addresses of those learners who self-identified primary care as their clinical specialty. In January 2012, we sent the structured survey to those captured email addresses via Survey Monkey® (SurveyMonkey.com, LLC; Palo Alto, CA).

Data Tabulation and Analysis

Responses related to demographics and practice characteristics were summed and tabulated as percent responding to each answer/answer category. Responses for self-assessed knowledge, confidence, and perceived value were tabulated as mean rating for the group of respondents. Responses for participation in hands-on sleep medicine education were tabulated as percent responding "Yes." Open-ended responses regarding suggested topics for ongoing sleep medicine CME activities were manually categorized into major themes.

Results

Respondent Demographics

There were 745 e-mail addresses that successfully received the survey link. Thirty-four clinicians submitted responses to one or more survey items.
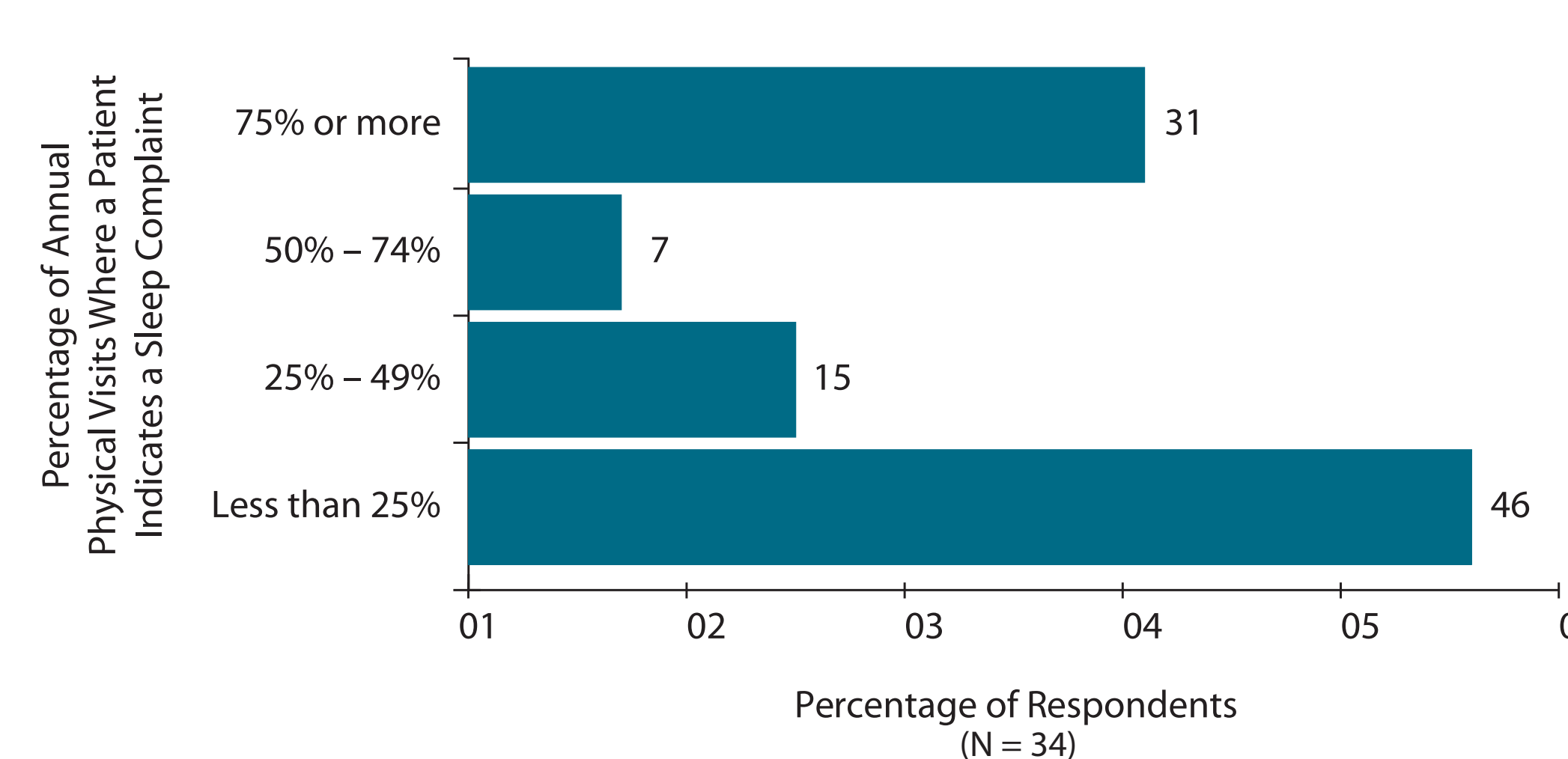
Table 2. The Majority of Respondents (n = 33)
Hold an MD or DO degree (94%)
Practice Internal Medicine (28%) or Family Medicine (19%)
Have been in clinical practice for 20 or more years (72%)

Frequency of Sleep Complaints During Clinical Encounters

Thirty-eight percent of respondents said that a sleep complaint was registered by the patient during 50% or more of their annual physical clinic visits, either on a review of systems questionnaire or during history-taking (Figure 1). Regarding acute care visits, 40% of respondents reported that about half of acute care visits that they conduct were with a patient who had a primary complaint that was sleep related.

Figure 1. Frequency of reported sleep complaint during annual physicals

Knowledge and Confidence Self-Assessments

Of five topics queried, respondents reported that they were most knowledgeable about medications that cause somnolence and least knowledgeable about the differential diagnosis of excessive sleepiness (Table 3). They were most confident in their ability to identify commonly used medications and comorbid conditions that may cause or contribute to somnolence and least confident about explaining the purpose of using validated sleep questionnaires to patients (Table 4).

Table 3. Mean knowledge self assessment ratings (10-point scale)	
Assess and rate your level of knowledge regarding each of the following sleep-related topics.	
Medications that can cause somnolence	7.4
Medications that can interfere with sleep	7.2
Which sleep disorders constitute a clinical diagnosis	7.2
Which sleep disorders require polysomnography for diagnosis	7.2
Differential diagnosis of excessive sleepiness	7.1

Table 4. Mean self-efficacy assessment ratings (10-point scale)	
Assess and rate your level of confidence in implementing each of the following clinical practice strategies.	
Identify comorbid conditions that may contribute to somnolence	7.3
Identify commonly used medications that often cause somnolence or sedation	7.3
Sort through the differential diagnosis for the sleepy patient	7.2
Refer patients to sleep specialists	7.1
Explain to patients the purpose of using a validated scale to register and rate their sleep complaints	6.5

Results cont'd

Perceived Value of Clinical Practices

Referral of a patient with a sleep complaint to a sleep specialist was identified as the least valuable strategy (mean rating = 6.8 out of 10).

Sleep Education

Of those who registered a response about hands-on education (n = 30)
• 27 had spoken to a sleep specialist about a patient they referred
• 27 had reviewed polysomnography results with a peer or sleep specialist
• 26 had visited a sleep lab
• 24 had been instructed on the use of a CPAP machine
• 22 had handled a CPAP machine

When asked, "What types of CME activities would help you treat patients with sleep complaints better," the key themes reflected in their responses (n = 18) were:
• Diagnosis/Approach to the patient
  • "Approach to the sleepy patient who denies having sleep problems"
  • "Home sleep testing"
  • "When do send/not send consult for sleep study"
  • "Indications for actigraphy"
  • "Candidly everyone educates on tools and screens but not on what to do with the results"
• Treatment
  • "Review of drugs for treatment of somnolence and impaired sleep"
  • "Review realistic, affordable, available treatments, both medication and nonmedication types"
• Specialized sleep disorders
  • Shift work disorder
  • Circadian rhythm disorders
  • Sleep disorders in transportation
  • REM behavior disorder
  • Narcolepsy
• Patient education
  • "Educating the importance of sleep studies to my patients"
  • "How to improve compliance for CPAP"

Conclusions

Optimal patient care requires an ongoing educational process, and constant assessment and improvement of clinician knowledge and skills are needed to help clinicians individualize care for patients with SWDs. These data inform how future educational initiatives on SWDs can be designed to best reach and teach the self-directed adult clinician learner.

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