Innovations in Family Medicine Education

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Feature Editor

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Teaching Family Medicine Medical
Students About Sleep Disorders

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Objectives: A 3.5-hour workshop was developed to teach family medicine medical students about sleep disorders.

Description: This family medicine clerkship requirement engages students in role-plays and provides them with didactic information about common sleep problems. Evaluation: Fifty-one students completed questionnaires assessing their knowledge prior to the workshop, 2 weeks and 6 months after the workshop, and their clinical behavior after the workshop. Conclusions: A role-play-based workshop is an effective, fun way to improve students’ sleep knowledge and skills. Students retain that information over a 6-month period and are able to apply it during their clinical clerkships.

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Educational Objectives
An estimated 40 million Americans suffer from some form of sleep disorder. Although one third of the US population complains of inadequate sleep, sleep problems are commonly overlooked and remain undiagnosed and untreated.¹⁻³ Few medical schools have any formal training in recognizing and managing sleep disorders.⁴ We developed a sleep disorders workshop for medical students to increase their knowledge about sleep problems and to give them tools to apply that new knowledge with patients.

Description
The 3.5-hour role-play-intensive workshop during the required family medicine clerkship focuses on the three major sleep disorders in primary care: insomnia, obstructive sleep apnea (OSA), and restless legs syndrome but also includes other sleep disorders affecting persons of all ages. The intention of this workshop is to increase students’ awareness of these problems and give them practical tools to manage them. A family physician and a sleep disorders specialist teach this interactive workshop together. We supplement the role-plays with videotapes of patients, didactic teaching (mini lectures and brief discussion), articles about sleep problems in primary care, and pocket references. The workshop’s goal is to develop practical clinical skills, including history taking, physical examination, and primary care management skills, and to acquire knowledge about when to refer to a sleep center for testing and/or management.

A clinical case description of a patient with a different sleep disorder is assigned to each student as he/she enters the classroom. Case descriptions include an elderly man with restless legs syndrome, who
comes with an “old man” wig and cane and cannot sit still for more than a minute. A punky adolescent girl with headphones sports a fuchsia wig and collapses while telling a joke, demonstrating the typical association of cataplexy with narcolepsy. In these scenarios, a student role-plays the “patient,” while the rest of the group acts collectively as the “doctor,” taking turns eliciting a history and brief description of an examination and formulating a differential diagnosis and treatment plan.

We use the OSA module to introduce physical examination highlights. Following a short slide presentation, students examine each other, identifying the important anatomic landmarks and physical findings associated with OSA. With the permission of the “patient,” salient physical findings, such as narrowed airways, high arched palates, and large tongues, are highlighted for the group. Invariably, in each group of 10 students, at least one or two students have important clinical findings, including several who had already undergone surgical procedures for OSA. The other hands-on experience in the OSA module includes trying a continuous positive airway pressure (CPAP) mask, adjusting the air pressure, and imagining how the machine would affect their lives.

Evaluation

We developed a 36-item knowledge assessment questionnaire for this workshop in consultation with faculty members of the Sleep Disorders Clinic. The questionnaire was administered to 72 clinical medical students prior to the workshop and again 2 weeks and 6 months following the workshop. This multiple-choice questionnaire includes items about insomnia, restless legs syndrome, OSA, rapid eye movement (REM) sleep behavior disorder, delayed sleep phase syndrome, sleep terrors and nightmares, periodic limb movements disorder, narcolepsy, and sudden infant death syndrome and questions to assess general knowledge about healthy and pathological sleep from infancy through old age.

The effectiveness of the module was tested by the change in students’ questionnaire scores. The first post-workshop questionnaire also asked if the sleep workshop had affected their clinical practice. Finally, students were asked to evaluate the workshop and instructors. The questionnaires were scored and entered into an Excel database. Standard paired t-test and nonparametric Wilcoxon tests compared pre-workshop and post-workshop questionnaire data.

Results

All 72 students completed the before and 2-weeks after questionnaires. The percentage of correct answers improved from 51% before the workshop to 68% 2 weeks after the workshop ($P < .05$). These modest gains did not appear to change over time. Only 51 students (71%) completed the questionnaire 6 months after the workshop. The average score on this second posttest was 67%

Nearly two thirds of those students tested 2 weeks after the workshop indicated that the module had already affected their clinical behavior. In response to an open-ended question, 64% said that it had affected their clinical practice in a variety of ways, especially in having greater confidence in recognizing, diagnosing, and treating sleep disorders.

Faculty evaluations were obtained anonymously from all students. Measures of organization and clarity, instructional skills, enthusiasm, and stimulation, rapport, professional characteristics, and overall teaching effectiveness were all between 8.4 and 8.7 on a scale of 1 to 9. These ratings are similar to overall faculty ratings in the clerkship. Comments from students included:

Excellent use of props. Case exercises were great! These instructors blended the perfect amount of didactic material and presentations witht interactive activity and summary time. Our curriculum would greatly benefit from more such teaching.

Great session! Well organized, interesting, and interactive. You kept my interest and made me more interested in learning even more about sleep disorders. Thanks.

I [felt] more confident about diagnosing sleep apnea in a patient in clinic. I loved the role-plays. [They] really help me to remember more specifics about the various diagnoses because I remember my classmates describing them. The wigs were a lovely touch.

I now know what questions to ask, and I’m familiar with common causes/patterns of sleep problems, possible treatments, and when to refer. I liked how we each role-played a pathology.

Conclusions

This workshop on sleep disorders, using role-plays and other educational techniques, was well received by students. It appeared to help increase students’ knowledge and improve their clinical skills. This learning does not seem to lessen over a 6-month period. Selection bias may have motivated some students with recall of the material to return their 6-month questionnaires. Nevertheless, it appears that many of the students did improve and retain their knowledge in this area.

This topic provides a natural forum for experiential teaching because the most common sleep disorders lend themselves to great theatre. By acting out the roles of patients and their doctors, and reinforcing their learning with didac-
tic materials, students gain tools that can allow them to translate knowledge into new approaches in clinic. Following this multi-dimensional teaching workshop, a majority of students report a change in their clinical practice, including increased facility with patient interviewing and examination and a heightened awareness of sleep problems in general.

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