Case Simulations in OSA and Narcolepsy: Patients That Keep You Up at Night Whitney E. Faler, MPA^{*}; Tara Gross^{*}; Kashemi Rorie, PhD^{*}; Jan Perez^{*}; Sharon A. Tordoff, BS^{*}; Greg Salinas, PhD^{**} • *CME Outfitters, LLC; **CE Outcomes

INTRODUCTION

Sleep is necessary for optimal functioning and health. Many patients diagnosed with obstructive sleep apnea (OSA) and narcolepsy experience residual excessive daytime sleepiness (EDS) despite treatment. The health-related quality of life (HRQoL) impact of residual EDS not only affects patients' quality of sleep, levels of fatigue, and cognitive dysfunction, but likewise, their daily function.

Case-based learning (CBL) has been established as an effective tool for clinicians to hone their skills in analytical thinking, reflective judgment, and problem-solving. Using CBL in a branched format with complex patients offers the opportunity to succeed and fail in a safe environment, guided by expert faculty providing the "why" of the correct and incorrect decisions.

This series of faculty-led educational interventions used online patient case simulations to facilitate the recognition of residual EDS in patients treated for narcolepsy and OSA and to improve decisionmaking skills when developing treatment strategies for long-term, effective management of residual EDS. The platform was supplemented with video discussion from faculty to add context to the branched-logic CBL. Note: Following the approval of solriamfetol, faculty video discussion and slides were updated to reflect the FDA-approved indication to improve wakefulness in adult patients with EDS associated with narcolepsy or OSA.



Pre-Activity Gaps in Clinician Knowledge and Performance



Educational Aims

- Increase the rate of detection of residual EDS in patients with narcolepsy and OSA by incorporating clinical tools such as the Swiss Narcolepsy Scale (SNS) or ESS into routine practice.
- Evaluate the efficacy of current and emerging treatment strategies that minimize the incidence of residual EDS in patients with narcolepsy and OSA.
- Incorporate the use of shared decision-making tools and strategies to facilitate patient engagement in disease management.

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OUTCOMES METHODOLOGY

Educational outcomes data were obtained from 3 x 30-minute online case simulations on residual EDS. 2 of the case simulations were on residual EDS in OSA, one on narcolepsy. Surveys assessing HCP knowledge, confidence, and behavior were administered before and immediately following the activity to establish baseline, as well as any improvements as a result of the activity. A separate evaluation survey was administered immediately following the activity, which provided demographics and other variables used in the model. Data from a 2-month follow-up survey to learners (n = 30) and a group of matched non-learner controls (n = 30) were analyzed to determine performance effects on the learner population compared to matched non-learner controls. Statistical comparisons of learner data from baseline to post-intervention were made using McNemar's tests and paired t-tests.



Two additional analyses were conducted on data from the education. PredictCME predictive modeling was applied to evaluate variables predictive of evidence-based decisions. A second longitudinal analysis of results was conducted to evaluate knowledge and performance changes in Jazz-supported initiatives between 2016 and 2019.

DEMOGRAPHICS



RESULTS

Overall, learners outperformed non-learner controls in utilizing the Epworth Sleepiness Scale (ESS) and interpreting the ESS for detection of EDS. Learners are more likely to interpret ESS scores to confirm EDS diagnosis and select the appropriate treatment options in their management of patients with EDS. Additionally, learners are more likely than non-learners to engage in shared decision making with their patients.

Improvements in Knowledge and Performance

Since the ESS can aid in the detection of EDS, which of the following is accurate regarding its scoring?



RESULTS cont.

CASE: Meet Sara



How would you characterize these events?





you do next?



Which of the following therapies has been shown efficacious in promoting wakefulness and reducing daytime sleepiness in patients with EDS despite optimal treatment with continuous positive airway pressure (CPAP) for OSA?



■ Pre-Survey (n = 310) ■ Posttest (n = 310) ■ Follow-up (n = 30) ■ Control (n = 30)

When given a real-world case, learners are more likely than non-learners to identify symptoms and order the correct tests based on their characterization. Learners were further able to select the best treatment options for the patient more often than non-learners. Continued education needs to focus on treatment options for patients with narcolepsy.



Pre-Survey (n = 310) Posttest (n = 310) Follow-up (n = 30) Control (n = 30)

PRIMARY IMPACT

Along with the pre-post activity knowledge assessment, we conducted a follow-up assessment to understand lasting performance in our learners that is attributable to this education.

Effect Size of Activity (Post-Control Data)





Further, the post-control data was used to predict how future education could affect performance change. Here, we found that, all else being equal, increasing confidence in evaluating the efficacy of current and emerging treatment is likely to predict improvement in using standardized screening tools like the ESS for EDS. Future educational efforts should focus on improving confidence in the use of medication for EDS in patients with narcolepsy and OSA. Improving confidence in the data that support prescribing treatment for a condition may result in clinicians being more likely to screen and diagnose that condition if they have the opportunity to improve patient outcomes and HRQoL.

Previous activities on narcolepsy and obstructive sleep apnea showed that while improvements were seen in knowledge, confidence, and behavior, continuing needs were identified in the areas of use of screening tools, referral to a sleep specialist, and initiation of treatment in a timely manner. Focusing on these aspects of care in the CBL real-world scenarios, we saw continued uptick in the use of the ESS, making an accurate diagnosis, and choosing an appropriate treatment.

Aggregated Analysis Of Activities 2016 - 2019 (Pre-Post Data)



CME for MIPS Improvement Activity

CME MIPS The Centers for Medicare & Medicaid Services (CMS) include accredited CME as an Improvement Activity in MIPS (Merit-based Incentive Payment System). This offers an opportunity for providers to demonstrate the value of CME in promoting clinician engagement in efforts to improve performance, quality, and safety.

What Changes Have You Made to Your Practice? "We have implemented a process where patients fill out ESS with each visit. If high, we explore why it's high and determine if further treatment is warranted." We are specifically asking about daytime sleepiness with more patients during review of symptoms." "It has heightened my awareness of EDS and I'm asking my patients with OSA about it proactively."



Future Educational Needs Use of screening tools Referral to a sleep specialist Initiation of treatment in a timely manner

Prevalence of leep disorders	Knowledge of key sleep terminology and guidelines	Making an accurate diagnosis	Choosing evidence-based treatment
47.8%	30.7%	47.6%	33.6%
84.3%	86.4%	88.1%	82.2%
0.82 (48%)	1.28 (65%)	0.92 (52%)	1.09 (59%)

