We identified 4 goals for the pre-activity survey:

• Determine the amount of coursework and clinical experience the residents have had before attending the activity.

• Determine current knowledge level about sleep using basic achievement questions.

• Provide the faculty with an overview of current knowledge and demographics of the attendees in order to better focus the learning activity.

• Prime the residents regarding content.

Outcomes: Using Multiple Measurements to Determine Effectiveness: A Case Report

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BACKGROUND

In April 2006, a day and a half immersion course called “The Sleep Collective” was conducted with post graduate year (PGY)-2 and 3 psychiatry residents in New York City. Because sleep disorders are closely associated with a number of common psychiatric illnesses, understanding the importance of adequate sleep is integral to good mental health and is therefore an important educational need for psychiatry practitioners. Studies suggest that patients with psychiatric illnesses have an increased incidence of sleep disorders [1]. Improving clinical knowledge and training regarding the biology of sleep, the complex interrelationship of sleep and neurochemistry, and how these findings guide treatment selection, will improve the clinical management and outcomes of this patient population.

The educational goals of the immersion course were to:

• Describe the primary symptoms associated with common sleep disorders.

• Differentiate between chronic and transient insomnia.

• Review the laboratory tests and differential diagnoses used to evaluate patients with sleep disorders.

• Identify current behavioral and pharmacologic therapies for the treatment of insomnia.

• Recognize comorbid psychiatric conditions that may accompany, or contribute to, sleep disorders.

The activity consisted of didactic lectures, case study presentations, and a faculty panel discussion. Topics included: sleep anatomy and physiology, pathologies of insomnia, comorbid psychiatric conditions, sleep evaluation, and treatments. During the instructional design of this activity, it was determined that we would complete the following outcomes measurements:

• A demographic measure of participants.

• Confidence measure prior to the activity.

• Immediate learning during the activity.

• Retained knowledge and confidence 3 months after the activity.

This case report will examine the use of multiple measurements in determining outcomes and the effect of these measures on learning.

CASE REPORT

Part I: Pre-Activity Measurement

We identified 4 goals for the pre-activity survey:

• Determine the amount of coursework and clinical experience the residents have had before attending the activity.

• Prime the residents regarding content.
Part II: Outcomes Measurement: Automated Response System Questions to Measure Immediate Learning

At the beginning of each session, questions designed to assess baseline knowledge were asked. These questions were based on the content that was to be presented in that session. After completion of the presentations, the same questions were asked to determine if learners had captured key pieces of information. The residents demonstrated immediate learning in 9 out of 10 questions.

Part III: Post-Meeting Evaluation

E-mail letters were sent to 80 residents who agreed to participate in a post-meeting evaluation 17 weeks following the activity. A URL link was embedded within the e-mail that directed responders to an on-line survey. The survey contained similar case scenarios to the pre-activity measurement; 48 residents responded. Based on a pre-/posttest analysis, psychiatry resident confidence in diagnosing sleep-related disorders improved significantly ($P = .0001$). In addition, 43% of residents surveyed scored 89% or higher on this posttest, with an average score of 75.6% (6.8 out of 9 correct answers).

Further, about 80% of residents surveyed “somewhat agreed” or “completely agreed” that “patient outcomes have been positively affected by my application of new knowledge I gained.” Another 80% of residents indicated that they have shared data or information with colleagues. This demonstrates active reflection on their experiences and new knowledge.

DISCUSSION

The outcomes measurement for “The Sleep Collective” is particularly interesting in that multiple measurements were completed within the framework of an intensive day and a half educational activity comprised of didactic lectures, case reviews, and a panel discussion. Through the use of multiple measurements we were able to determine changes in knowledge, self-assessment of confidence, and to identify additional learning needs.

The pretest measurements, in addition to establishing a baseline of learners’ knowledge and understanding, were used to aid the faculty in focusing activity content based on the current level of understanding and learning of the participants. The pre-activity confidence measure accomplished 2 goals: (1) it created a baseline for confidence; equally important (2) it primed our learners. This is an important educational goal in itself because, we believe, the learners came better prepared to learn. The outcomes measure at the completion of the activity aided in determining real time learning and knowledge acquisition.

Finally, the high posttest response rate indicates that the learners remained interested.

Multiple outcomes measurements can be accomplished and offer a more useful set of data that aid not only in determining what was learned, but in preparing content for the activity and focusing the learners on the activity. It would be interesting to revisit the participants and measure confidence and knowledge 2 years post-activity.

REFERENCES