

Original Publication

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Disruptive Behavior Disorders and ADHD: A Problem-Based Learning Activity for Psychiatry Clerkship Students

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Abstract

Introduction: Clinicians are challenged when differentiating the symptoms of attention deficit hyperactivity disorder from those of disruptive behavior disorders such as oppositional defiant disorder and conduct disorder, as many of the core symptoms overlap. Without a correct diagnosis, it is difficult to create an effective treatment plan. This progressive disclosure case was developed with the intention of helping medical students learn the process of clinical evaluation. The purpose of this resource is to provide a lesson plan to teach intermediate/advanced learners how to systematically approach a case with symptoms of disruptive behavior and attention and focus problems in order to improve their ability to establish the correct diagnosis. **Methods:** Students were assigned readings, including relevant sections of the Diagnostic and Statistical Manual of Mental Disorders (fifth edition) and a textbook chapter. During a 1-hour class, a child psychiatrist facilitated students in the progressive disclosure case. The learning process included a pre- and posttest. **Results:** Students positively perceived the emphasis of important points and showed increased motivation to learn more. Participant evaluations overall were positive, although some students still preferred learning from straight lectures. **Discussion:** Feedback led to modifications of the pre- and posttests to reflect a greater emphasis on factual material. Progressive disclosure cases can be used to facilitate structured exposure to clinical topics in child and adolescent psychiatry.

Keywords

Assessment, Oppositional Defiant Disorder, ADHD, Attention Deficit Disorder With Hyperactivity, Attention Deficit and Disruptive Behavior Disorders, Child and Adolescent Psychiatry, Attention Deficit Hyperactivity Disorder, ODD, Progressive Disclosure Case

Educational Objectives

By the end of this activity, students will be able to:

1. Identify the Diagnostic and Statistical Manual of Mental Disorders (fifth edition; DSM-5) category A and B diagnostic criteria for oppositional defiant disorder (ODD) and category A, B, C, and D criteria for attention deficit hyperactivity disorder (ADHD).
2. Give examples of normal behavior in a pediatric patient as compared to behavior that would meet DSM-5 diagnostic criteria for ODD and ADHD in a pediatric patient.
3. Differentiate between the information that is obtained from a SNAP-IV rating scale and a Vanderbilt rating scale.
4. Identify at minimum two advantages and two disadvantages to the use of a SNAP-IV rating scale and a Vanderbilt rating scale.
5. Identify the roles of other health professionals who interact with children with behavior problems.

Introduction

The fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM)* characterized disorders such as attention deficit hyperactivity disorder (ADHD), oppositional defiant disorder (ODD), and

Appendices

- A. Disruptive Behaviors Instructor Guide.docx
- B. Disruptive Behaviors Student Copy.docx
- C. Disruptive Behaviors Pre-Post Test.docx
- D. Disruptive Behaviors Pre-Post Test Answers.docx
- E. Disruptive Behaviors Overall Evaluation.doc

All appendices are peer reviewed as integral parts of the Original Publication.

conduct disorder into disruptive behavior disorders (DBDs).¹ With the revision and publication of the fifth edition (*DSM-5*), ADHD has been removed from the DBD category and placed with the neurodevelopmental disorders.² Nevertheless, it is often difficult for practitioners to differentiate these disorders as their key symptoms overlap. An effective treatment plan for a patient can only be formulated when the correct diagnosis is reached. Specifically, misdiagnosing ODD as ADHD may lead to pharmacologic missteps. It is appropriate that stimulant medication be considered as initial treatment of ADHD. Psychotherapy is the appropriate initial treatment approach for ODD. Misdiagnosis of patients may result in long-term treatment approaches with inappropriate medication trials.

The workforce crisis in child and adolescent psychiatry is severe and continues to worsen. The Liaison Committee on Medical Education, the accrediting body for US medical schools, recognizes this and does not require the education of a medical student to include clinical experiences in the subspecialty of child and adolescent psychiatry.³ The Association of Directors of Medical Student Education in Psychiatry says that ideally, all medical students should have clinical exposure, or other intensive exposure through a learning experience, to at least one of the neurodevelopmental disorder diagnoses that can occur at some point across a patient's life span.⁴

This exercise attempts to provide a simulated clinical experience for medical students in the most common area of child and adolescent psychiatry, an area that primary care physicians are forced to treat. The purpose of this instructional design project was to create a lesson plan to teach third-year medical students how to systematically approach a case with symptoms of disruptive behavior and attention and focus problems in order to improve their ability to establish the correct diagnosis. The audience was third-year medical students rotating through a 6-week psychiatry clerkship. The instructional approach used problem-based learning (PBL), utilizing a case in which information was progressively disclosed.

Current medical school classes are made up of a majority of millennial learners. To improve physician competency, there is evidence to support the use of active learning formats, such as PBL, to teach millennial learners.^{5,6} There are a limited number of PBL activities specifically designed for use in teaching concepts in clinical psychiatry to medical students. This educational activity was inspired by a resource that uses the PBL format to instruct undergraduate and graduate students in adolescent substance abuse assessment.⁷ Additionally, utilizing psychiatry residents as teachers in psychiatry clerkships can increase student knowledge, including on National Board of Medical Examiners (NBME) shelf exam scores.⁸ This educational activity is a resource that reduces one known barrier to involving psychiatry residents in the teaching of medical students. It provides the facilitator (the psychiatry resident) with a manual delineating the evidence-based approach to the evaluation of a child with disruptive behavior.⁹⁻¹²

This progressive disclosure problem-based class was first implemented at the Brody School of Medicine at East Carolina University in the fall of 2014. It was given to each clerkship cohort during a 50-minute scheduled didactic session. Students had to recall and use information learned during the first and second years of medical school, which included lectures on patient interviewing and psychopathology. The purpose was to provide learners with an experience using a systematic approach to a patient with disruptive behavior, as well as attention and focus problems, in order to obtain an accurate diagnosis.

Methods

The target audience is intermediate/advanced learners who possess basic knowledge of the *DSM-5* criteria for ADHD and DBDs, as well as of clinical interview skills, and who have had exposure to a clinical interview of a patient with mental health concerns.

Logistics

Third-year medical student cohorts rotated on the psychiatry clerkship for 6 weeks. Each cohort had dedicated didactic time together 1 day weekly. Information was presented during a 50-minute scheduled didactic session.

Faculty can prepare for the case by reading the Disruptive Behaviors Instructor Guide (Appendix A).

The schedule for the class is as follows:

- 0-3 minutes: introduction of class format and reading of directions.
- 4-6 minutes: completion of the pretest (Appendices C & D).
- 7-12 minutes: reading of first section of case presentation and discussion of ensuing questions.
- 13-22 minutes: reading of second section of case presentation and discussion of ensuing questions.
- 23-36 minutes: reading of third section of case presentation and discussion of ensuing questions.
- 37-45 minutes: reading of fourth and final selection of case presentation and discussion of ensuing questions.
- 46-50 minutes: summary of session and completion of posttest (Appendices C & D).

Case Scenario

A 12-year-old boy and his mother present to an outpatient primary care physician practice. The mother is requesting a referral to a child psychiatrist so that the patient can be prescribed a stimulant to treat what she feels is ADHD. The team of students is responsible for gathering information to determine a diagnosis by obtaining symptomatology through the clinical interview, utilizing appropriate assessment tools, and recognizing when the need of other professionals is warranted.

To prepare for the scenario, students were reminded of the sessions that covered ADHD and DBDs in their second year of medical school. They were also provided with the chapters and page numbers from the *DSM-5* and their assigned course textbook that cover ADHD and DBDs.¹³

On the day of class, students were provided a booklet of the entire case (Appendix B). The case was divided into four sections that were progressively disclosed to the team. The end of each section was marked by a stopping point where several questions were posed. The questions prompt assessment and evaluation of the information already disclosed. The students were urged to consider the information, identify the facts, consider hunches, and suggest what the next step of their assessment/procedure would be to verify or dismiss hunches and move on to treatment.

Deployment

We have provided this class for 18 months with nine separate cohorts of students. Our feedback (collected with Appendix E) has been mixed but mostly positive, and our format has adapted as a result of feedback. The most consistent issue for students had been complaints of preferring to utilize this time for more concrete information that would be examined on the NBME test. Consequently, the time for introducing the format of the class was increased to ensure the facilitator could explain to the learners that the intent of the assignment also included having the student use critical thinking skills to assess clinical information in order to formulate an accurate diagnosis.

Additionally, based on feedback from students, the specific questions used to assess performance (the pre- and posttest questionnaire) were modified. The final, modified version of the questionnaire (included in this resource) is scored on an 8-point scale, instead of a 10-point scale, with questions that focus on more concrete information discussed in the exercise.

Limitations

Students received 1-hour weekly didactic sessions on child psychiatry during their 6-week psychiatry clerkship. A great depth of conversation was possible based on the prompts of the case presentation. The makeup of students in each cohort varied, and student interest in child psychiatry cases varied as a result. Consequently, each cohort that completed this exercise had some variation in the depth of discussion largely based on the composition of the students in the cohort. This may have had a significant impact on the perception of the quality of information obtained during the exercise. Third-year students remained focused on written objectives. There was a relationship between the perception that important points were emphasized and the motivation to learn more.

Results

During the pilot administration of this class in fall 2014, students completed three assignments. The first was a 10-item pretest. The second was the same 10-item questionnaire as a posttest at the end of the

class. The questionnaire required students to identify 10 pieces of information (1 point each) that should have been covered during the class based on the learning objectives. The average pretest score was 1.58, while the average posttest score was 9.30, clearly demonstrating that learning occurred during the exercise.

The third assignment was an evaluation of the case, the facilitator, and the student's perception of overall learning (Appendix E). This assignment included seven Likert-scale questions and a question that allowed for free text on the strengths and weaknesses of the class.

The seven questions were as follows:

- Question 1: I was prepared for the sessions.
- Question 2: Important points were emphasized.
- Question 3: Facilitator appeared knowledgeable about content.
- Question 4: I was motivated to learn more.
- Question 5: I was provided opportunities to ask questions.
- Question 6: Facilitator answered questions appropriately.
- Question 7: Facilitator was, overall, an effective teacher.

We chose motivation to learn more (question 4) as the outcome measure and used a median split on each independent variable (questions 1, 2, 3, 5, 6, and 7) to understand the impact on motivation to learn more. Respondents who agreed most that important points were emphasized had the highest motivation to learn more. Respondents who felt less strongly that important points were emphasized had the lowest motivation to learn more.

Free-text responses about the exercise were limited but mostly positive. Students commented on the effectiveness of the interactive style of the session and that group discussion facilitated engagement.

Discussion

In a small child and adolescent psychiatry division, it has been difficult to provide each third-year medical student rotating through the psychiatry clerkship with exposure to child and adolescent psychiatry opportunities. Indeed, medical students often leave the rotation without evaluating a child in a clinical setting. The intent of developing this class was to allow each third-year medical student to process a typical child psychiatry case with the facilitation of a child and adolescent psychiatrist. As the case material developed, the case was facilitated by child and adolescent psychiatry fellows independently as well. It is believed that this course does not require a child and adolescent psychiatrist facilitator, but it would be best delivered by at least a general psychiatry resident who has completed a minimum of one child and adolescent psychiatry rotation.

The instructional strategy used for this class is a type of experiential learning within a small-group discussion setting that requires active learning and a self-directed approach to a real-world problem presented via a case scenario. In PBL, the case is the conduit for the problem that forces the learners to recognize their deficits in knowledge or consider the critical thinking skills that will result in solving the problem.

The initial student feedback highlighted students' focus on receiving information that would be directly applicable to a standardized written examination such as the NBME examination. Consequently, revisions of the curriculum included providing more time to better explain the goal of developing critical thinking skills through this exercise as well as fashioning the pre- and posttests to better highlight the concrete information that may be evaluated by standardized tests.

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Ethical Approval

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