Original Publication

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Binge-Eating Disorder: An Interactive Self-Learning Module

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Appendices

A. Binge-Eating Disorder CSI SLM folder

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

Abstract

Introduction: This resource is a web-based and self-contained self-learning module (SLM) on binge-eating disorder (BED) that runs utilizing Articulate software. Certain skills and knowledge are required to both interview and manage patients diagnosed with the disorder. Because BED may be encountered by medical students, this module can help inform the learning process. **Methods:** Software was utilized to develop an SLM for third-year medical students utilizing video clips demonstrating the evolution of a clinical BED case from presentation to follow-up over 10-12 weeks. The focus is on differential diagnosis and management, with intermittent self-assessment quizzes and other evidence-based literature for further study. The module follows the case of Ms. Melanie May, who has been referred for help to lose weight. Further assessment reveals that she has BED. By having her needs therapeutically attended to, she receives help through focused cognitive behavioral therapy, the use of food log monitoring, and medications. **Results:** This SLM on BED has been implemented at the University of Toronto as an optional component of the psychiatry clerkship over the 2015/2016 academic year. Written and verbal feedback from faculty (*n* = 5) and students (*n* = 5) has been overwhelmingly positive. **Discussion:** This SLM is intended as a clinical application exercise for third-year medical students who may not encounter patients with BED or who want to increase their clinical understanding of how to help patients who present with obesity and binge-eating complaints.

Keywords

Self-Learning Module, Clinical Simulation, Binge-Eating Disorder, Medical Student Teaching, Psychiatry Clerkship

Educational Objectives

By the end of the module, the third-year medical student will be able to:

1. Use specific questions to assess patients with binge-eating behaviors.
2. Explain the differences between normal eating, overeating, and binge-eating behaviors.
3. Describe the pathophysiology as well as medical and psychiatric comorbidities that exist with binge-eating disorder.
4. Identify key intervention elements that will help manage patients with binge-eating disorder.

Introduction

The Association of Directors of Medical Student Education in Psychiatry (ADMSEP) has developed the Clinical Simulation Initiative (CSI) in psychiatry for medical students in order to create a series of self-learning modules (SLMs) that provide alternative clinical experiences for third-year medical students who may not encounter certain required clinical conditions during their core psychiatry clerkship. The work of creating and disseminating the CSI modules over the last 6 years has been published in *Academic Psychiatry* as an innovative technology blueprint for medical education.[1] Two of the authors (Raed Hawa and Michael Marcangelo) have been involved with the CSI since its inception and have contributed to both the publication of other CSI modules[2-4] and their presentation at conferences.

Binge eating has only been recently recognized as an eating disorder and is one of the most commonly diagnosed. Binge-eating disorder (BED) is often seen by medical students and trainees and requires a certain level of knowledge and skill to explore, understand, and manage. There are no publications in MedEdPORTAL that have addressed this issue, and based on our ADMSEP survey of faculty and students, it is an area that needs more exposure.

Methods

This resource provides a case study of BED and is a self-contained module utilizing Articulate software (Appendix A). It can be viewed on any computer, and the instructor/student can navigate at will through the interactive quizzes, text, and imbedded video clips. The video clips demonstrate the evolution of a clinical case from presentation to follow-up over 10-12 weeks. The module's educational focus is on interviewing, therapeutic connection, and treatment planning. Intermittent self-assessment quizzes and references to evidence-based literature are also provided. Rather than offering a comprehensive didactic on BED, this module utilizes a clinical application exercise format to achieve the learning objectives.

The module starts with a review of the learning objectives and introduces reasons why a medical student needs to know about eating behaviors. This is followed by information about the patient, Ms. Melanie May, whom the students encounter through a number of brief videos. Each video is followed by a quiz and postquiz explanation. The quizzes test knowledge on how to ask questions about binge eating, what factors contribute to binge eating, and how to assess binge eating. These questions also address comorbidities, pathophysiology, and treatment options. Information about therapist intervention and goals is highlighted throughout the video interactions. The module concludes with reflective questions and a list of cited literature.

Teachers can utilize this CSI module in a number of different ways. They may use it as an individual study or small-group exercise as part of the clerkship curriculum, as preparation for a team-based learning module, as a homework assignment for a flipped classroom experience, or as a meaningful alternative learning experience if direct exposure to the clinical condition is not possible.

Setup and Operation
This module will easily run in the web browser of most computers. However, if the module is used on an Apple computer, it will work with Firefox but not with Safari or Chrome.

Results

This SLM on BED has been implemented at the University of Toronto and offered as a learning option as part of the psychiatry clerkship over the 2015/2016 academic year. Ten third-year medical students used the module, with five of them providing feedback. It has also been reviewed by two eating disorder specialists and three psychiatrists who are involved in undergraduate medical education. Written and verbal feedback from faculty (n = 5) and students (n = 5) has been overwhelmingly positive.

Sample feedback from faculty included the following:

- "It made the group discussion very interactive."
- "Very helpful to introduce the medical students to the area of disordered eating and medicine."
- "Excellent concepts made simple especially with the addition of BED as a new diagnosis in *DSM 5*."
- "Very practical. The students found it easy to navigate."

Sample feedback from students included the following:

- "I now know more about obesity and binge-eating disorder, an area of increasing interest of mine."
- "This is an important area of medicine that is not covered much in the clerkship program."
- "The videos and the therapeutic interventions made it easy for me to understand patients and connect with them when I see them in my clinic in the future."
- "I am glad I used the binge eating module. It offered me opportunities to understand the concept of BED and be aware of the therapies as well as medications available for treatment."

Based on the feedback received, the following revisions were made prior to this publication:

- No audio narration has been provided for the text as it appeared to interfere with the reading of the text.
- Video clips have been made shorter to increase student engagement.
- The quizzes have been revised to reflect the level of training expected from third-year medical students and have been made more clinically relevant.
- The written text in the SLM has been revised and shortened.

Discussion

This self-contained module utilizing Articulate software employs a pedagogical approach to teach an important topic that has received more attention of late. BED is a common disorder that is often encountered by learners and requires special consideration for diagnosis and management. The module is presented in a way that makes it appealing to medical students and faculty. There are preinterview preparatory questions that help orient the students to the major issues encountered in BED diagnosis and treatment. These are followed by quizzes that punctuate the presentation to ensure the students understand the material and allow them opportunities to both apply some of the knowledge that they have learned and reflect on some of the difficulties that they might encounter. There is emphasis on pharmacological as well psychological therapies that are essential for the student to consider when treating a patient with BED. Special attention is also given to cultural and societal factors throughout the presentation, and these factors are further emphasized by the reflective questions at the end of the module. For students who want to learn more about BED after the conclusion of this module, a reference list is provided.

The feedback we received from students and faculty who reviewed the module was overwhelmingly positive. One of the faculty members commented that the module helps increase medical student awareness of BED as both a new *DSM-5* diagnosis and an important area of clinical training. Another member used the module to stimulate a flipped classroom self-learning assignment. One of the students valued the therapeutic interventions covered, as they could be used to help connect with patients in future clinical encounters. Another student found the content very practical and easy to navigate.

Some of the feedback helped us improve the content and quality of the presentation. We eliminated the audio narration and shortened the video segments to increase learner engagement. Some of the content and quizzes have been modified to reflect the level of knowledge and training expected from a third-year medical student.

Reflecting on this activity and the feedback received from faculty and students, it is clear that the creation of any educational product requires an adequate needs assessment and a robust feedback mechanism to respond to the needs of the users and institute the necessary modifications to make the product more accessible and engaging. For example, our feedback resulted in streamlining of content delivery to maintain student attention and revision of some of the content and quizzes to reflect the level of training of the students.

One of the highlights of working on this module has been the collaborative process that involved the cooperation of two academic institutions (University of Toronto and University of Chicago) and five psychiatrists and psychologists. It has been a growth experience for all involved in terms of increased knowledge, knowledge transfer, and educational innovation.

Limitations to the use of this module could be related to possible technical glitches. If this module is used on an Apple computer, it will work with Firefox but not with Safari or Chrome.

Overall, the module has been well received by our medical students and medical education faculty. It provides learners and teachers with a tool for self-study, team-based learning, or fulfillment of alternative learning experiences. More modules are being created, and additional uses of CSI modules are being explored.

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