[2] Professor of Psychiatry and Molecular Medicine, Hofstra Northwell School of Medicine, Hempstead, New York; Investigator, The Feinstein Institute for Medical Research; Medical Director, Recognition and Prevention Program, The Zucker Hillside Hospital, Glen Oaks, New York

ABSTRACT: Study Objectives: To assess physicians' current knowledge, skills, competence, and practice barriers regarding tardive dyskinesia (TD) and assess continuing medical education (CME) needs.

ASSESSMENT METHODS: A 29-question clinical practice assessment survey instrument consisting of multiple-choice knowledge and case-based questions was administered online to gather abaseline "snapshot" of knowledge, skills, attitudes, and competence on TD epidemiology, risk factors, diagnosis, current guideline-based management, and emerging management strategies

The survey launched online on a website dedicated to continuous professional development on July 25, 2016, and was made available to healthcare providers without monetary compensation or charge. Data were collected through August 28, 2016

Confidentiality was maintained and responses were de-identified and aggregated prior to analyses

RESULTS: Data were collected for the 1157 psychiatrists and 177 neurologists who responded to all survey questions during the study period. The findings were:

- Epidemiology: 62% of psychiatrists and 68% of neurologists were aware that TD affects approximately 20% of patients treated with neuroleptic agents
- Risk factors: 63% of psychiatrists and 67% of neurologists were aware of risk factors for TD, such as older age
- Diagnosis: 93% of psychiatrists and 71% of neurologists were aware that Abnormal Involuntary Movement Scale (AIMS) can be used to support diagnosis of TD
- Guidelines: 21% of psychiatrists and 11% of neurologists were aware of the American Psychiatric Association guidelines for monitoring of TD, and 56% of psychiatrists and 42% of neurologists were aware of the American Academy of Neurology guidelines on treatment of TD

New/emerging treatments: 24% of psychiatrists and 34% of neurologists were aware of the mechanisms of action of new/emerging treatments for TD, and 54% and 44%, respectively, were aware of the clinical data for valbenazine

CONCLUSIONS: This educational research yielded important insights into clinical practice gaps in TD, indicating that both psychiatrists and neurologists would benefit from continuing medical education on epidemiology, risk factors, diagnosis, guideline-based care, and information on how to incorporate new/emerging treatments for TD into practice.

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Improving Management of Mood Disorders Through an Online Interactive Patient Case Challenge

Jovana Lubarda, PhD[1]; Piyali Chatterjee-Shin[1]; and Joseph F. Goldberg, MD[2]

[1] Medscape Education, New York, NY
[2] Clinical Professor of Psychiatry, Icahn School of Medicine at Mount Sinai, New York, New York

ABSTRACT: Background: To determine if online continuing medical education (CME) could improve knowledge, competence, and confidence of psychiatrists and primary care physicians (PCPs) in managing patients with major depressive disorder (MDD) and co-occurring hypomanic/manic features.

METHODS:

- Physicians participated in a 1-hour text-based, online CME activity composed of 2 patient cases with interactive questions related to diagnosis, assessment, and management of various presentations of MDD
- Evidence-based educational feedback was provided following each answer
- Effects of CME were assessed using a repeated-question pairs pre- to post-assessment study design where individual participants served as his/her own control
- The assessment included 3 multiple-choice knowledge/competence questions and 1 self-efficacy question that rated confidence in managing MDD with mixed features on a 5-point Likert Scale
- For all questions combined, McNemar's chi-square test assessed the differences from pre- to post-assessment
- P values measured significance; P values $< .05$ were considered statistically significant
- Effect size was calculated using Cramer's V by determining the change in proportion of participants who answered questions correctly from pre- to post-assessment
- Survey data were collected from December 8th, 2016, to January 24th, 2017.

RESULTS:

- Data set included responses from 1454 psychiatrists and 488 PCPs who completed all assessment questions during the study period
- Psychiatrists: Knowledge/competence improved ($P < .001$; $V = 0.54$; large educational effect) following participation in the CME activity:
  - While 5% answered all 3 questions correctly on pre-assessment, 70% answered them all correctly on post- assessment, with the largest increases on accurate differentiation between possible signs of mania and depression, accurate diagnosis of bipolar depression, and ability to select treatments for MDD with mixed features
  - 20% reported being more confident in their ability to select treatments for various presentations of mood disorders
- PCPs: Knowledge/competence improved ($P < .001$; $V = 0.49$; large educational effect) following participation in the CME activity:
  - While 2% answered all 3 questions correctly on pre-assessment, 48% answered them all correctly on post-assessment, with the largest increases on accurate differentiation between possible signs of mania and depression, accurate diagnosis of bipolar depression, and ability to select treatments for MDD with mixed features
  - 24% reported being more confident in their ability to select treatments for various presentations of mood disorders

CONCLUSIONS: Online CME in a clinically relevant interactive case-based format can improve knowledge, competence, and confidence in management of various presentations of mooddisorders and better equip physicians to recognize key features, accurately diagnose, and treat the complex spectrum of this patient population.

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Effect of Heroin Use on Changes of Brain Functions as Measured by fMRI, a Systematic Review

Jungjin Kim, MD[1]; Ayman Fareed, MD[2]; Bethany Ketchen, PhD[3]; Woo Jin Kwak, DO[3]; Danzhao Wang, MD[3]; Hilaire Shongo-Hiango, MD[3]; and Karen Drexler, MD[4]

[1] Resident Psychiatrist, Emory University School of Medicine, Atlanta, Georgia
[2] Associate Professor, Emory University School of Medicine, Atlanta, Georgia and Atlanta VA Medical Center, Decatur, Georgia
[3] Staff Psychologist, Atlanta VA Medical Center, Decatur, Georgia
[4] Associate Professor, Emory University School of Medicine, Atlanta, Georgia and Deputy National Mental Health Program Director, Addictive Disorders, Office of Mental Health Services - Veterans Healthcare Administration

ABSTRACT: In this study the authors focus on reviewing imaging studies that used resting state functional magnetic resonance imaging for individuals with a history of heroin use. This review study compiled existing research addressing the effect of heroin use on decision making by reviewing available functional neuroimaging data. Systematic review ofthe literatures using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses checklist. Eligible articles were retrieved through a computer-based MEDLINE and PsycINFO search from 1960 to December 2015 using the major medical subject headings "heroin, fMRI" (all fields). Only English language was included. Thirty-seven articles were initially included in the review. Sixteen were excluded because they did not meet the inclusion criteria. The results of 21 articles that met all the inclusion criteria were presented. Based on the 21 studies included in the current review, there is evidence that heroin use may have a direct and damaging effect on certain brain functions and that these changes may be associated with impulsive and unhealthy decision making. From the review of these studies, the authors understand that a longer duration of heroinuse may be associated with more damaging effects on brain functions. The authors also understand that these brain changes could last long after abstinence, which may increase the risk of relapse to heroin use. More research is needed to create a biomarker map for patients with heroin use disorder that can be used to guide and assess response to treatment.

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Visual Snow Defeats Guardians of the Galaxy Volume 2: Unremitting Pixelation Despite Three-Dimentional Stereoscopic Film

Kanchan S Prashar, medical student year 4[1]; Abraham M Titus, medical student year 4[1]; Vishal Kinkhabwala, medical student year 4[1]; and Alan R Hirsch, MD[2]

[1] Avalon University School of Medicine, Willemstad, Curacao
[2] Smell and Taste Treatment and Research Foundation, Chicago, IL