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Information to Participants

Objectives. After evaluating a specific journal article, participants should be able to demonstrate an increase in their knowledge of clinical medicine. Participants should be able to understand the contents of a selected research or review article and to apply the new findings to their clinical practice.

Participants. This program is designed for all psychiatrists in clinical practice, residents in Graduate Medical Education programs, medical students interested in psychiatry, and other physicians who wish to advance their current knowledge of clinical medicine.

Explanation of How Physicians Can Participate and Earn Credit. In order to earn CME credit, subscribers should read through the material presented in the article. After reading the article, complete the CME quiz online at cme.psychiatryonline.org and submit your evaluation and study hours (up to *AMA PRA Category 1 Credit*™).

Credits. The American Psychiatric Association designates this educational activity for a maximum of 1 *AMA PRA Category 1 Credit*™. Physicians should only claim credit commensurate with the extent of their participation in the activity. The American Psychiatric Association is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

Information on Courses

Title: Combined Cognitive Remediation and Functional Skills Training for Schizophrenia: Effects on Cognition, Functional Competence, and Real-World Behavior
Faculty: Christopher R. Bowie, Ph.D., Susan R. McGurk, Ph.D., Brent Mausbach, Ph.D., Thomas L. Patterson, Ph.D., Philip D. Harvey, Ph.D.
Affiliations: Departments of Psychology and Psychiatry, Queen's University, Kingston, Ontario (C.R.B.); the Department of Psychiatry, Dartmouth Medical School, Hanover, N.H. (S.R.M.); the Department of Psychiatry, University of California San Diego, San Diego (B.M., T.L.P.); the Department of Psychiatry and Behavioral Sciences, University of Miami Miller School of Medicine, Miami; and the Research Service, Miami Veterans Administration Medical Center, Miami (P.D.H.).
Disclosures: Dr. Bowie has served as a consultant for Abbott Pharmaceuticals. Dr. Harvey has served as a consultant for Abbott Labs, Genentech, Johnson & Johnson, Novartis, PharmaNeuroBoost, Roche, Shire, and Sunovion. All other authors report no financial relationships with commercial interests.
Discussion of unapproved or investigational use of products*: No

Title: Genetic Variation in *KCNH2* Associated With Expression in the Brain of a Unique hERG Isoform Modulates Treatment Response in Patients With Schizophrenia
Faculty: José A. Apud, M.D., Ph.D., Fengyu Zhang, Ph.D., Heather Decot, B.S., Kristin L. Bigos, Ph.D., Daniel R. Weinberger, M.D.
Affiliations: Clinical Brain Disorders Branch, Genes, Cognition, and Psychosis Program, Intramural Research Program, NIMH, Bethesda, Md.
Disclosures: The authors report no financial relationships with commercial interests.
Discussion of unapproved or investigational use of products*: No

Title: Interplay of Genetic Risk Factors (*CHRNA5-CHRNA3-CHRNB4*) and Cessation Treatments in Smoking Cessation Success
Faculty: Li-Shiun Chen, M.D., M.P.H., Sc.D., Timothy B. Baker, Ph.D., Megan E. Piper, Ph.D., Naomi Breslau, Ph.D., Dale S. Cannon, Ph.D., Kimberly F. Doheny, Ph.D., Stephanie M. Gogarten, Ph.D., Eric O. Johnson, Ph.D., Nancy L. Saccone, Ph.D., Jen C. Wang, Ph.D., Robert B. Weiss, Ph.D., Alison M. Goate, D.Phil., Laura Jean Bierut, M.D.
Affiliations: Department of Psychiatry (L-S.C., J.C.W., A.M.G., L.J.B.) and the Department of Genetics (N.L.S.), Washington University School of Medicine, St. Louis; the Center for Tobacco Research and Intervention, School of Medicine and Public Health, University of Wisconsin, Madison (T.B.B., M.E.P.); the Department of Epidemiology, Michigan State University, East Lansing (N.B.); the Department of Human Genetics, Eccles Institute of Human Genetics (R.B.W.), and the Department of Psychiatry (D.S.C.), University of Utah School of Medicine, Salt Lake City; the Institute of Genetic Medicine, Johns Hopkins University, Baltimore (K.F.D.); the Department of Biostatistics, University of Washington, Seattle (S.M.G.); and the Division of Health, Social, and Economic Research, Research Triangle Institute, Research Triangle Park, N.C. (E.O.J.)
Disclosures: Drs. Bierut, Goate, and Wang are listed as inventors on issued U.S. patent 8,080,371, "Markers for Addiction," which covers the use of certain single-nucleotide polymorphisms in determining the diagnosis, prognosis, and treatment of addiction; no product is on the market, and no commercial interest presently exists for this patent. Dr. Goate also reports research funding for Alzheimer's disease research from AstraZeneca ($75,000 for the last 3 years), Genentech (total $120,000), and Pfizer ($200,000 over 3 years) and an honorarium ($1,000) from Pfizer for a presentation at Pfizer on Alzheimer's disease. The remaining authors report no financial relationships with commercial interests.
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* APA policy requires disclosure by CME authors of unapproved or investigational use of products discussed in CME programs. Off-label use of medications by individual physicians is permitted and common. Decisions about off-label use can be guided by scientific literature and clinical experience.

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Estimated Time to Complete: 1 Hour
Begin date July 1, 2012 – End date June 30, 2014

EXAMINATION QUESTIONS

Select the single best answer for each question below.

Combined Cognitive Remediation and Functional Skills Training for Schizophrenia: Effects on Cognition, Functional Competence, and Real-World Behavior

Christopher R. Bowie, Ph.D., et al. • Am J Psychiatry 2012; 169:710–718

Learning Objective. The participant will understand the impact of cognitive and functional interventions for persons with schizophrenia.

1. Which of the following represents the effects of cognitive remediation and functional skills training on everyday community activities and work skills?

A. Cognitive remediation alone resulted in more improvement than functional skills training.
B. Combined treatment resulted in greater improvement compared to either treatment alone.
C. Only the functional skills training alone resulted in improvement in everyday activities.
D. Improvement occurred in all groups but it was not maintained at the 12-week assessment.

2. A number needed to treat (NNT) analysis estimated the number of patients who would need to receive the combined treatment in order to show improvement at various levels compared with a patient receiving only the functional skills training. For functional competence and clinician-rated real-world work skills, what was the NNT for a 20% response?

A. 10.2
B. 3.3
C. 7.2
D. 5.4

3. What was the outcome for the cognitive remediation group when the intervention was not combined with a supplemental functional skills treatment?

A. The cognitive remediation group did not significantly improve on social competence.
B. The functional skills training group had greater improvement in neurocognitive composite score compared with the cognitive remediation group.
C. The cognitive remediation group showed greater improvement in social competence compared with the functional skills training group.
D. None of the above

EVALUATION QUESTIONS

This evaluation form is adapted from the MedBiquitous Journal-Based Continuing Education Guidelines 28 November 2005. This evaluation will appear online at the end of each CME course. Participants **must** *complete this evaluation in order to receive credit. Select the response which best indicates your reaction to the following statements about this activity.*

STATEMENT 1. The activity achieved its stated objectives.
1. Strongly agree
2. Agree
3. Neutral
4. Disagree
5. Strongly disagree

STATEMENT 2. The activity was relevant to my practice.
1. Strongly agree
2. Agree
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STATEMENT 3. I plan to change my current practice based on what I learned in the activity.
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Genetic Variation in *KCNH2* Associated With Expression in the Brain of a Unique hERG Isoform Modulates Treatment Response in Patients With Schizophrenia

José A. Apud, M.D., Ph.D., et al. • Am J Psychiatry 2012; 169:725–734

Learning Objective. The reader will understand the potential role of expression of the brain form of the gene *KCNH2* on response to antipsychotic drugs.

1. The potassium channel gene *KCNH2* is of interest as a factor in the response of patients to antipsychotic drugs for the following reasons:

A. *KCNH2* genotype is associated with risk for schizophrenia.
B. Risk-associated alleles in *KCNH2* predicted lower IQ and lower cognitive processing speed.
C. Patients with schizophrenia have increased mRNA expression of *KCNH2* 3.1 in the hippocampus.
D. All of the above

2. The authors assessed genotype effect on time to discontinuation in the olanzapine response data; they found that individuals with TT genotypes at rs1036145 had which of the following outcomes compared with nonrisk allele homozygous individuals?

A. They were significantly less likely to have discontinued their medication.
B. They had a significantly greater time to discontinuation of olanzapine.
C. They had a significantly shorter time to discontinuation of medication.
D. There was no difference between the rs1036145 and nonrisk allele genotypes.

3. The association of *KCNH2* genotype with antipsychotic treatment suggests that patients who respond best have:

A. The lowest CNS expression of *KCNH2* 3.1
B. The highest CNS expression of *KCNH2* 3.1
C. The most side effects
D. The least side effects

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Interplay of Genetic Risk Factors (*CHRNA5-CHRNA3-CHRNB4*) and Cessation Treatments in Smoking Cessation Success

Li-Shiun Chen, M.D., M.P.H., Sc.D., et al.

Am J Psychiatry 2012; 169:735–742

Learning Objective. The learner will identify the influence of genetic risk factors on smoking cessation and maintenance of cessation.

1. Which of the following represents the effect of genetic variants in the chromosome 15q25 region and smoking behaviors?

A. This gene cluster is associated with risk of heavy smoking.
B. This gene cluster is associated with an earlier age of quitting smoking.
C. The high-risk haplotype is associated with greater cessation success
D. All of the above

2. What is the likelihood of responding to pharmacologic cessation treatment for smokers with the high-risk haplotype compared with smokers with the low-risk haplotype?

A. They have a decreased response to pharmacologic cessation treatment.
B. They have an increased response to pharmacologic cessation treatment.
C. They have a similar response to pharmacologic cessation treatment.
D. They have no response to pharmacologic cessation treatment.

3. What is the effect of pharmacological cessation treatment in individuals with the low-risk haplotype 1?

A. The treatment exerts little effect in individuals with the low-risk haplotype.
B. The treatment is highly effective in individuals with the low-risk haplotype.
C. The treatment is mildly effective in individuals with the low-risk haplotype.
D. The treatment is unclear in individuals with the low-risk haplotype.

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