

Assessment of Psychopharmacology on the American Board of Psychiatry and Neurology Examinations

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Objective: To report the assessment of psychopharmacology on the certification and recertification exams in general psychiatry and in the subspecialties administered by the American Board of Psychiatry and Neurology (ABPN).

Methods: The ABPN's core competencies for psychiatrists were reviewed. The number of items addressing psychopharmacology or neuropharmacology was determined for each examination. For the multiple-choice certification exams, item performance was reviewed. The grade cards of failing candidates were reviewed for the oral certification exam.

Results: A significant number of the core competencies involved psychopharmacology. The percent of items addressing the topic varied by examination but was substantial in general. Performance on these items on the multiple-choice certification exam was similar to performance in other areas. However, a majority of those who failed the patient section of the oral examination had inadequate performance in the area of drug treatment, indicating that trainees may need additional experience with applying psychopharmacological knowledge in the context of patient cases.

Conclusion: This review indicated that knowledge of psychopharmacology was a significant component of the ABPN's core competencies and of its certification and recertification exams.

Academic Psychiatry 2005; 29:211–214

Most psychiatrists would agree that our field has changed significantly over the past 30 years as a result of three major influences: the evolution of neuroscience, the availability of new and better medications, and the impact of managed care and/or other fiscal constraints on the practice patterns of the average psychiatrist. While weekly psychotherapy visits with minimal attention to medications used to be the norm, today's psychiatrists spend most of their time seeing patients for brief visits, with a clear focus on medication management (1, 2). Inpatient treatment now focuses on crisis stabilization, which often means a combination of aggressive psychosocial and psychopharmacological interventions (3). Furthermore, the typical psychiatrist now sees sicker patients who often have comorbid medical and/or substance abuse disorders (4). Thus, the need for a solid knowledge base and clinical competency in psychopharmacology has never been greater.

In an article in this issue of *Academic Psychiatry*, Ira Glick and Sidney Zisook (5) have chronicled the difficulties experienced by the American College of Neuropsychopharmacology and the American Society of Clinical Psychopharmacology in getting their model psychopharmacology curricula accepted and utilized in U.S. training programs. Although they (and others) express concern about the quality of teaching, and thus the knowledge base of our graduates, it is difficult to gauge the psychopharmacological expertise of our newly trained colleagues. Certainly, any of us who have done peer reviews for hospitals or managed care companies have been able to quickly identify the outliers with problems in this area. Yet, more objective measures are necessary if we are to draw conclusions about this important subject.

The purpose of this article is to report on the American Board of Psychiatry and Neurology's (APBN's) core competencies in psychopharmacology and on the

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assessment of psychopharmacology on the certification and recertification exams in general psychiatry and in the subspecialties administered by the ABPN.

Core Competencies

In June 2001, the ABPN sponsored a conference on core competencies in psychiatry and in neurology for leaders in psychiatric and neurological education. Previously, the American Board of Medical Specialties and the Accreditation Council for Graduate Medical Education (ACGME) had agreed to six general core competencies. The conference participants developed specific competencies for psychiatry and neurology, and the results were subsequently published (6, 7). The Board has since reviewed the alignment between these competencies and the content of the ABPN's examinations and has charged its subspecialty test committees with developing core competencies in their areas in consultation with related professional organizations. The general and subspecialty core competencies are posted on the ABPN's web site (www.abpn.com) as they become available.

Certification in Psychiatry

The ABPN has a three-step process for certification in general psychiatry. Applicants must first meet the credentialing criteria, including satisfactory completion of residency training in programs accredited by the ACGME and possession of an unrestricted license to practice medicine in the U.S. or Canada.

Those who are accepted sit for the multiple-choice exam (Part I) that must be passed in order to sit for the oral examination (Part II). The Part I exam contains about 420 multiple-choice questions that broadly sample the basic and clinical sciences relevant to psychiatry. Approximately 260 of the items are in the psychiatry section, and about 160 are in the neurology section.

Candidates who pass both sections of the Part I examination then take the Part II examination, which also has two sections. In the patient section, examinees are given approximately 30 minutes to interview a psychiatric patient under the observation of one or more examiners and 30 minutes to present and discuss the case. They are evaluated on the physician-patient relationship; conduct of the interview; organization and presentation of data; phenomenology, diagnosis, and prognosis; and etiologic, pathogenic, and therapeutic issues. The audiovisual section

consists of observation of a videotaped psychiatric examination followed by presentation and discussion of the case. Examinees are evaluated on observation of data; organization and presentation of data; phenomenology, diagnosis, and prognosis; and etiologic, pathogenic, and therapeutic issues.

Diplomates who are certified in general psychiatry and who meet similar licensure and training requirements can sit for subspecialty certification in addiction psychiatry, child and adolescent psychiatry (CAP), forensic psychiatry, geriatric psychiatry, and, beginning in 2005, psychosomatic medicine. (Psychiatrists can also obtain subspecialty certification in clinical neurophysiology and pain medicine, but these are primarily neurological subspecialties and will not be discussed here.) For new subspecialties, candidates can qualify via practice time or non-ACGME accredited training for the first 5 years the subspecialty examination is offered. After this period, successful completion of an ACGME accredited fellowship in the subspecialty is required.

Except for CAP, the certification process in the subspecialties requires passing a 200-item multiple-choice exam. Child and adolescent psychiatry includes both a multiple-choice exam and a two-section oral exam on preschool/grade school-aged children and adolescents.

As of October 1, 1994, all individuals achieving certification by the ABPN are issued 10-year, time-limited certificates. Except for CAP, all subspecialty certificates, including those issued prior to October 1, 1994, are 10-year, time-limited certificates. Time-limited certificates for CAP began in 1995. In addition to licensure requirements, candidates for recertification must pass a practice-oriented multiple-choice exam consisting of 200 items for general psychiatry, 150 items for CAP, and 120 items for the other subspecialties.

METHOD

The first step in this study was review of the general psychiatry core competencies to identify those that addressed expertise in the area of psychopharmacology.

The number of items addressing psychopharmacology on the 2001–2003 Part I exams was determined based on the content categories of each item, and examinee performance on these items was compared to performance on the other items. Two item statistics were computed: 1) item difficulty (percent of examinees who got the item correct) and 2) item discrimination [point biserial correlation between performance on a given item (right/wrong) and total

test score] (8). Item difficulty can range from 0% (all examinees got the item wrong) to 100% (all examinees got the item right). Like any correlation, item discrimination can range from -1.00 to $+1.00$. In general, indices >0.20 indicate that performance on an item is correlated with overall performance on the test.

The grade cards of all the examinees ($N = 112$) who had failed the patient section of a recent Part II exam were reviewed to determine what problems, if any, these examinees had experienced with psychopharmacological issues. Candidates are assigned to Part II exams primarily on a geographical basis, and performance across examinations is similar. Hence, it can be assumed that this sample was representative of failing Part II candidates.

The content outlines for the subspecialty and recertification exams were reviewed, as were the most recent test versions, to determine the percent of the items that addressed psychopharmacology. Only the content outline was reviewed for psychosomatic medicine because the first examination had not yet been administered when this manuscript was being prepared. Because of the relatively small numbers of examinees taking most of these exams, item statistics were not computed.

As part of the examination application process, the applicants signed a release statement agreeing to let the Board release information about examination results and examination scores, provided that such data were reported in the aggregate.

RESULTS

Core Competencies

The core competencies are organized into six major categories: patient care; medical knowledge; interpersonal and communications skills; practice-based learning and improvement; professionalism; and systems-based practice. Review of the current version of the general psychiatry core competencies (9) indicated that four of the six categories contained competencies directly related to psychopharmacology.

Under patient care, psychiatrists are expected to develop comprehensive treatment plans addressing biological, psychological, and sociocultural domains. More specific expectations for psychopharmacology appear in the medical knowledge category. Psychiatrists are expected to know the pharmacological actions, clinical indications, side effects, drug interactions, toxicities, appropriate prescribing practices, and cost effectiveness of the antidepressants, antipsychotics, anxiolytics, mood stabilizers, hypnotics, and

stimulants. They are also expected to know about neuropharmacology, including the major medications (e.g., anticonvulsants, antiparkinson agents) and their side effects, and the neurological complications of somatic therapies (e.g., movement disorders).

The interpersonal and communications skills category addresses the need for clear transmittal of information about proposed treatment plans to patients and their families, including risks and benefits, possible side effects, and alternatives, if any. Writing legible prescriptions is also listed. Under the category of practice-based learning and improvement, psychiatrists are expected to consult drug information databases to obtain up-to-date information.

The last two categories, professionalism and systems-based practice, apply to all physicians and do not contain any specific competencies related to psychopharmacology.

Part I Examination

For the psychiatry section of the exam, most psychopharmacology items were derived from two areas of the content outline: neurosciences/neuropharmacology and treatment of psychiatric disorders/psychopharmacology. In addition, other items were cross-classified into psychopharmacology. For example, items related to specific psychiatric disorders. For the 2001–2003 exams, about 26% of the questions addressed psychopharmacology. The difficulty averaged about 73%, and the discrimination index averaged about 0.23. These indices were the same for the other items on the psychiatry section.

For the neurology section of the exam, most pharmacology items were derived from two areas of the content outline, both under management and treatment of neurological disorders. They were neuropharmacotherapy and neuropharmacological mechanisms of action and drug interactions. Other items that were cross-classified into neuropharmacology were included in the total number of items. For the 2001–2003 exams, an estimated 14% of the questions addressed pharmacology. The difficulty averaged approximately 74%, and the discrimination averaged about 0.27. For the other items on the neurology section, the difficulty averaged approximately 70%, and the discrimination index averaged about 0.28.

When pharmacology items from both the psychiatry and the neurology sections were added together, they represented about 22% of each of the three exams.

Part II Examination

The grade cards of the 112 examinees who failed the patient section of a recent Part II exam were reviewed to determine what problems, if any, these examinees had had

in the area of psychopharmacology. Of the 112, 77 (69%) had problems in this area. These examinees also had inadequate performance on other areas of the exam, particularly the interview section. Poor performance on drug treatment alone did not cause failure of the section.

The most common problem was the inability to develop an appropriate pharmacological treatment plan for the patient. Some examinees who described an appropriate medication used incorrect dosages and/or inadequate dosing regimens. There were also frequent problems with lack of information about side effects (e.g., sexual side effects, neurotoxicity, weight gain, renal problems) and lack of understanding of the implications of patient's medical conditions (e.g., hepatitis C, diabetes, heart condition) and interactions with the nonpsychiatric medications they were taking (e.g., anticoagulant, pain medication).

Subspecialty Examinations

The percentages of items that addressed psychopharmacology on the most recent examinations were 3% for forensic psychiatry, 11% for CAP, 24% for addiction psychiatry, and 38% for geriatric psychiatry. The content outline for psychosomatic medicine has 10% of the items assigned to psychopharmacology. However, it is likely that the actual percent will be higher as items on other topics will also address these issues.

Recertification Examinations

On the most recent recertification exam in general psychiatry, the percentage of items that addressed psychopharmacology was 28%. For the most recent subspecialty recertification exams, the percentages were 4% for forensic psychiatry, 18% for CAP, 26% for addiction psychiatry, and 27% for geriatric psychiatry.

CONCLUSIONS

Four of the six categories of core competencies that underlie the ABPN's examinations contained specific competencies related to psychopharmacology, and this emphasis was reflected in the ABPN's certification and recertification exams.

A significant portion of the recent Part I exams addressed psychopharmacology and neuropharmacology, and these questions functioned similarly to items from the other content areas on the examinations, indicating that candidates were as well-prepared in these areas as in others covered on the test.

Analysis of the grade cards from examinees who failed the patient section of a Part II exam indicated that a ma-

majority of them had significant deficiencies in addressing the pharmacological aspects of their patients' treatment plans, although they had all passed the Part I exam. This may suggest that trainees need more experience in applying their pharmacological knowledge to specific patients.

The recertification exam in general psychiatry contained a similar percentage of psychopharmacology items to the Part I exams. The percent of items on the certification and recertification exams in the subspecialties reflected the nature of practice in those areas. Forensic psychiatry and CAP had lower percentages of psychopharmacology items compared to addiction and geriatric psychiatry.

Although only the most recent examinations were reviewed, the content outlines for the multiple-choice exams remain fairly stable unless there are significant changes in the knowledge base required for practice, and no changes with regard to psychopharmacology are being considered at this time.

In summary, this review indicated that knowledge of psychopharmacology was a significant component of the ABPN's core competencies and of its certification and recertification exams.

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