EDITORIAL

Renewing the Teaching of Clinical Reasoning in Psychiatry: An Opportunity for Advancing Mental Health Training and Care

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As medical education evolves, the importance of teaching clinical reasoning as a cornerstone of clinical expertise has been recognized across many specialties [1, 2]. Although the field of psychiatry has been teaching a comprehensive skill-set required to diagnose and treat mental health disorders, it has not placed enough emphasis recently on the teaching of clinical reasoning per se, in our opinion. Psychiatric faculty may not always be teaching clinical reasoning as explicitly and optimally as would be ideal, as illustrated in the following hypothetical vignette:

> At the end of the third-year medical student clerkship rotation, a psychiatry faculty member was asked to assess a medical student's clinical reasoning skills, on the basis of the student's presentation at a case conference. The faculty member was aware that during rounds, the trainee often had a superficial grasp of patients' symptoms and frequently missed diagnoses. At the case conference, the student provided the following description of a patient: "The patient is an unsheltered, divorced, 74-year-old man with a history of heavy alcohol consumption, mood swings,

and withdrawal symptoms of insomnia and anxiety." The student was not able to elaborate on the patient's "mood swings" and did not include a diagnosis of bipolar disorder in the differential diagnosis. However, the faculty member is unable to pinpoint the student's misstep in the clinical reasoning process. The faculty member instructs the student to be aware of premature closure on the diagnosis, to see more cases, and to read more, but does not have more precise instructions to improve the student's missteps in clinical reasoning.

Definition of Clinical Reasoning and Current State of Teaching It

Clinical reasoning is a complex cognitive process that health care professionals use to gather information, integrate this information with their medical knowledge, generate hypotheses, and make decisions about patient care. It encompasses several domains: diagnosis, formulation, treatment/management, prognosis, and ethics [2, 3]. Clinical reasoning is fundamental to all aspects of evidence-based practice, from the use of screening tools and making diagnoses to deciding on treatment plans and making prognostic assessments. To be clear, however, clinical reasoning does not cover all aspects of clinical care. Other essential skills and concepts include empathy, professionalism, medical ethics, social justice, and humanistic aspects of medicine, to name a few.

Attending physicians have always taught clinical reasoning but mostly through implicit processes, such as role modeling. Now that the subprocesses of clinical reasoning are better understood, more explicit and efficient means of teaching clinical reasoning are being developed. In fact, methodologies for explicitly imparting clinical reasoning have been widely published. Especially in general medicine, a growing body of literature in the last decade has delved into the teaching of clinical reasoning and decision-making

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[2]. To this end, clinical reasoning has been analyzed and conceptualized as a unique suite of skills that are amenable to explicit learning and teaching. Several key, concurrent, and iterative subprocesses have been labeled in clinical reasoning, allowing them, for instructional efficacy, to be imparted distinctly. Explicit teaching is facilitated by the labeling of these subprocesses in the literature, including "problem representation," "schema development," and elaboration of "illness scripts" [2].

An important distinction should be made here regarding research on the nature of clinical reasoning versus research on the teaching of clinical reasoning. Research on the mechanisms of clinical reasoning, grounded on experimental research from the cognitive neurosciences and, more specifically, on studies of experts in various fields, has provided a relatively high level of evidence [1–3]. One might not say the same about the studies of methodologies for teaching clinical reasoning. In general medicine, many studies have evaluated methods for teaching clinical reasoning (e.g., with learner satisfaction or post-test results), but few reports have directly proven measurable change in medical education outcomes (e.g., with randomized controlled trials). Such education studies are hard to conduct and fund, and educators frequently must rely on lower levels of evidence, like "expert consensus." For example, surveys of pre-clerkship medical educators indicate general consensus that the more recent and explicit teaching of clinical reasoning concepts and their applications is important, and largely based on this, they have been trying to promote it in the pre-clerkship curriculum for several years as a foundation for students entering all the specialties [4–6].

Specific and concrete techniques and exercises for teaching clinical reasoning have been published and range from simple (on rounds) to more complex (in the classroom) [2]. Are psychiatry attendings aware of these, and have they considered testing them out? For example, on rounds, the "reason aloud technique" involves the trainee hearing a case presented in chunks, and after each one, the trainee indicates how the information informs reasoning about the probability of various diagnoses, hypotheses about the case, and missing data [1]. The attending may want to first model this process of reasoning aloud. Further discussion of the case might use the IDEA critique method, involving four steps: interpretive summary, differential diagnosis, explanation of reasoning, and alternative diagnoses and arguments for exclusion [7].

More complex techniques might be applied in the classroom or assigned as homework. For instance, students might be given a rambling transcript of a poorly organized case presentation and be asked to separate important from distracting information and to rewrite it into a coherent account of diagnostically relevant facts, leading to a differential diagnosis. When directing students to read about a disorder, telling them to read briefly about two or three disorders that share symptoms may be more effective. They might then summarize and remember this reading by constructing a table of the disorders, listing features that are similar and dissimilar [1].

Clinical Reasoning and Psychiatry

We looked for clinical reasoning requirements in psychiatry. Within the milestone competencies for psychiatry of the Accreditation Council for Graduate Medical Education (ACGME) [8], the closest core milestone that incorporates clinical reasoning, though not explicitly, is "Patient Care 2: Psychiatric Formulation and Differential Diagnosis." Within this category are competencies that include integrating/synthesizing information and developing a thorough and prioritized differential diagnosis. By contrast, ACGME milestones for primary care residencies include "Clinical Reasoning" [9, 10] as a competency, inclusive of "critical reappraisal" and "avoidance of diagnostic errors."

The teaching of clinical reasoning within psychiatry, we believe, remains predominantly in the apprenticeship model: trainees gradually amass clinical experience, guided by the insights and opinions of the faculty spontaneously offered during attending rounds or supervisory sessions. This process often involves implicit learning and may be influenced by the supervisor's subspecialty expertise (e.g., psychopharmacology, psychodynamic, family systems, cultural lens). In short, we raise the question of whether clinical reasoning is being taught in a consistent and uniform manner within psychiatry, especially during clerkships, on the basis of a common vocabulary and pedagogy. We also question how aware psychiatric educators are of the literature in general medicine about techniques for teaching clinical reasoning, which might be adapted for psychiatry.

If psychiatry aims to prioritize clinical reasoning into the lifelong learning of psychiatrists, it must explore the further development of clinical reasoning curricula. Some suggested next steps are the following: First, conduct a review of articles on clinical reasoning in psychiatry. Second, adopt established methodologies for teaching clinical reasoning, found in other medical specialties. Third, analyze how clinical reasoning in psychiatry may differ from other medical specialties to tailor teaching methods accordingly. Fourth, explore innovative teaching methods to enhance clinical reasoning skills in both trainees and teaching faculty. Fifth, develop and disseminate model curricula for residency training programs that emphasize clinical reasoning. Sixth, encourage interprofessional collaboration for psychiatry, other medical specialties, and allied mental health professions to share best practices in teaching and applying clinical reasoning. Seventh, develop tools for the assessment of competency in clinical reasoning to measure progress and identify areas for further teaching and remediation.

These seven steps might involve publishable research and scholarship like surveys to understand the extent and nature of current clinical reasoning knowledge and teaching in psychiatry [11], reports on opportunities and barriers in applying clinical reasoning concepts in psychiatric settings, and perspective pieces on how to increase continuity between teaching clinical reasoning during pre-clinical and clinical undergraduate and graduate psychiatric medical education.

The vignette below builds on the vignette from the beginning of this editorial by illustrating how a faculty member who is familiar with current clinical reasoning concepts and teaching methods could approach the student's misstep in the case presentation.

The faculty member focuses first on the initial sentence of the student's description ("The patient is an unsheltered, divorced, 74-year-old man with a history of heavy alcohol consumption, mood swings, and withdrawal symptoms of insomnia and anxiety"), what the faculty member considers to be the problem representation. The faculty member suspects a misstep in the undifferentiated use of "mood swings" and asks the student to elaborate. The student replies that the patient used this term and the student did not question what it meant. Sensing a teaching opportunity, the faculty member points out the value of being meticulous in describing behaviors and interviewing patients about them. The faculty member points out that generic or popular phrases like "mood swings" need to be explored with patients and, if accurate, replaced with specific descriptors traditionally used in psychiatry that reflect key diagnostic features of common conditions, such as elated mood, grandiosity, and/or decreased need for sleep. The faculty member encourages the student to learn about the high specificity signs and symptoms and mnemonics relating to mania, hypomania, and major depression and notes that information of less diagnostic value, such as marital status in this case, should be removed from the initial problem representation to decrease cognitive load for the listeners. The faculty member later provides copies of three rambling case presentations for the student to rewrite with only the relevant information and terminologies and leading to the differential diagnoses for each case. Finally, rather than admonishing the student with a single clinical pearl to "remember to think about mood disorders in all patients with substance use disorders," the faculty member instructs the trainee to develop schemas (i.e., approaches to patient presentations) as a method to prevent premature closure or diagnostic anchoring.

In conclusion, clinical reasoning is essential for evidence-based practice, diagnostic accuracy, and minimizing bias in psychiatry. By prioritizing clinical reasoning, psychiatrists can improve the quality of care they provide and ensure that their interventions are grounded in the best available evidence. It is crucial for education in psychiatry to continue emphasizing clinical reasoning and integrate it into clinical practice to provide the best possible care for patients. As a field of medicine extremely interested in higher cognitive processes, it seems that psychiatry should lead the way in research and teaching of clinical reasoning. Furthermore, embracing clinical reasoning in psychiatry is not merely an educational endeavor but an imperative for advancing mental health care.

Declarations

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