Clinician Mindfulness and Patient Safety

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PATIENT SAFETY HAS BEEN A TOPIC OF CONSIDERABLE interest over the last decade, with evidence showing that medical errors are responsible for substantial morbidity and mortality. There has been significant progress in understanding, identifying, and addressing errors at a system level; however, the performance of individual clinicians remains a crucial and largely unaddressed element of patient safety. Individual performance is important in diagnostic errors, but these errors are difficult to measure and have received little systematic study.1,2

Diagnostic errors often stem from cognitive biases, also referred to as “cognitive dispositions to respond” (CDRs).2,3 Because CDRs are integral to human cognition, they are challenging to overcome. Croskerry2 has delineated more than 30 CDRs and has proposed “debiasing strategies” to prevent errors due to CDRs. Prominent among these strategies is metacognition,2 or an individual’s knowledge of his or her own thinking process. Notably, there is significant overlap between metacognition and mindfulness, nonjudgmental awareness of the present moment. Increased mindfulness leads to greater awareness and understanding of a person’s experiences, including thoughts, emotions, and bodily sensations. Because education can increase mindfulness,4 mindfulness instruction for clinicians holds promise as a debiasing strategy for reducing diagnostic and other medical errors.

Mindfulness Instruction for Clinicians

Three decades of research suggests that mindfulness instruction can improve mental health and quality of life outcomes in diverse clinical and nonclinical populations.3 More recent studies have demonstrated benefits of mindfulness-based intervention instruction for medical personnel. For example, Krasner et al5 demonstrated that mindfulness instruction significantly improved empathy, mood disturbance, burnout, and mindfulness in practicing physicians. It has been suggested that increased clinician mindfulness could also reduce medical errors,7,8 but there has been no empirical test of this hypothesis.

Roots of Diagnostic Errors

Cognitive dispositions to respond that influence the diagnostic process are characterized by a lack of awareness and responsiveness by the individual to his or her own cognitive and affective processes.2,3 For example, confirmation bias favors the pursuit of data that support a diagnosis over data that refute it. This may be compounded by anchoring bias, a resistance to adapting appropriately to subsequent data that suggest alternative diagnoses. Together, confirmation and anchoring bias can result in an incorrect diagnosis. This, in turn, reduces the chance of ameliorative treatment and increases risks for adverse effects of unwarranted evaluation and treatment.

Mindfulness Qualities

Kabat-Zinn8 describes 7 interrelated attitudinal qualities associated with mindfulness: patience, beginner’s mind, trust, nonjudging, nonstriving, acceptance, and letting go. Patience reflects the understanding that many things in life unfold in their own time. Having a beginner’s mind (openness) means remaining open to each new experience, despite previous knowledge or expertise with related experiences in the past. Trust refers to nurturing trust in an individual’s own wisdom, which leads to trust in others. Nonjudging refers to awareness of reflexive judgmental thoughts generated continually in a person’s mind (applying to both self and others), with recognition that they distract from experiencing the present. Nonstriving is the shift of focus from attaining goals and meeting expectations to what is happening in the present so that the experience of the present is not undermined by the goals of the future. Acceptance is a willingness to see the situation as it truly is, rather than focusing on how a person wishes it would be different. Letting go (nonattachment) is allowing thoughts, feelings, and experiences to come and go, without letting them carry away a person’s attention. With practice, mindfulness practitioners become more aware of the internal processes associated with these qualities, all of which may enhance experiencing the present.
Mindfulness as a Debiassing Strategy

The high degree of homology between mindfulness and debiasing points to mindfulness instruction as a potential strategy to improve the quality of care and reduce medical errors, as illustrated by the following case. A 6-year-old boy is brought to the pediatrician for behavior problems in school including talking in class, fidgeting, and difficulty staying in his seat. His behavior at home is also difficult, and his mother spends 10 minutes expressing her frustration. She thinks he needs medicine for attention-deficit/hyperactivity disorder. The child’s physical examination is within normal limits. The pediatrician suggests a psycho-educational evaluation to assess possible developmental, attentional, and learning-based diagnoses.

As the pediatrician writes the referral, the boy’s mother mentions offhandedly that her son has been coughing and has used his asthma rescue inhaler on most days of the past months. The pediatrician recognizes persistent asthma symptoms and prescribes an asthma controller medication. The pediatrician also postpones the behavioral evaluation because both asthma symptoms and agitation from the rescue inhaler could contribute to behavior problems. On the follow-up visit 2 weeks later, the boy’s mother states that his coughing has resolved and his behavior has improved, with no subsequent complaints from school.

The pediatrician used several mindfulness qualities in the encounter: patience, trust, and nonjudgment allowed the boy’s mother to express her frustration candidly and allowed for the asthma history to emerge. The quality of the beginner’s mind allowed the pediatrician to remain open to the potential role of asthma symptoms and medication as contributors to behavior problems. Nonstriving prevented making an incorrect diagnosis, and nonattachment to the initial diagnosis allowed the pediatrician to incorporate the additional asthma history and reach the correct diagnosis.

Considered from the viewpoint of diagnostic errors, the table links several clinically important CDRs to mindfulness qualities that could reduce diagnostic errors and illustrates that a successful intervention to increase mindfulness could address multiple CDRs simultaneously.

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<tr>
<th>Cognitive Dispositions to Respond</th>
<th>Mindfulness Qualities That Could Reduce Cognitive Dispositions to Respond</th>
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<tbody>
<tr>
<td>Fundamental attribution error: differential care based on a clinician blaming the illness on the patient or the patient’s behavior</td>
<td>Beginner’s mind (openness)</td>
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<td>Affective heuristic: the tendency for the physician’s affect about a patient to influence how he/she interprets information</td>
<td>Beginner’s mind (openness)</td>
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<td>Representativeness restraint: a focus on the most typical or representative presentations of diagnoses; may lead to the premature or incorrect rejection of less typical presentations</td>
<td>Beginner’s mind (openness)</td>
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<tr>
<td>Availability: the judgment that something is more likely if it easily comes to mind</td>
<td>Beginner’s mind (openness)</td>
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<td>Anchoring: the tendency to lock on to limited aspects of a patient’s presentation that fit with a particular diagnostic hypothesis and fail to adjust appropriately in response to additional information</td>
<td>Patient</td>
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<td>Confirmation bias: selective search for information to confirm a diagnosis but not for information to refute the diagnosis</td>
<td>Patient</td>
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<td>Search satisficing: the tendency to stop looking for additional problems once a single problem is found; if nothing is found in one area, the tendency not to continue to look in other areas</td>
<td>Patient</td>
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Implications

Enhanced clinician mindfulness could improve patient safety by increasing metacognition and reducing the effects of CDRs that cause diagnostic and other medical errors.10 Furthermore, research suggests that more mindful practice may have additional benefits for clinicians, including improved mental health, reduced burnout, increased job satisfaction, and an improved work environment, at least some of which may improve calibration of clinical decision making. As the potential benefits span multiple domains related to health care delivery, from patient safety to clinician well-being, there is ample reason to pursue mindfulness instruction for clinicians. As with other educational interventions, care will be required to ensure the quality of mindfulness instruction and to follow the incorporation of concepts and techniques into clinicians’ medical practices. As efforts proceed, research will be needed to evaluate whether clinician mindfulness instruction translates into improvements in clinical reasoning, patient safety, and quality of care.

Financial Disclosures: None reported.

REFERENCES