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The Need for Theory in Addressing Nonadherence to Treatment

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Nonadherence to prescribed medical treatment is a significant barrier to effective and efficient care and a difficult challenge to overcome.[1] It has particularly tragic consequences in psychiatric care. Nonadherence can be defined as failure to follow treatment in part or in whole, with potential adverse consequences for the expected outcomes. Medication nonadherence has been estimated at 25%–30% for short-term medical therapies and about 50% for chronic medical conditions.[2] Psychiatric care in particular is rendered significantly more complex and challenging due to poor adherence to treatment recommendations.[3,4] Studies of patients receiving antipsychotic medications and patients on antidepressants showed adherence to prescribed treatment 58% (24%–90%) and 65% (40%–90%) of the time, respectively.[5–7] As a result, patients and families suffer unnecessarily, and society shoulders additional and avoidable costs in an already inefficient system of care.[1]

In this issue of the *Journal*, De las Cuevas et al[8] analyze the potential causes of patients' nonadherence and, most importantly, root their study on theory-based models of control beliefs. The authors conclude that control beliefs correlate with adherence to psychiatric treatment, and their assessment should offer an opportunity for clinicians to understand and intervene.

Determinants of nonadherence can manifest themselves in the patient's intent and behavior, as measured in part by control beliefs; in the process of care, such as provision and management of care; and in the structure of care delivery, such as financial, physical, behavioral, or cultural access. Determinants of nonadherence have a multiplicity of causes and require a methodical and focused approach.[5] Adherence to medical treatment recommendations seems to be correlated with the severity of the disease, with higher compliance in more threatening and acute conditions, and is associated with a significant drop after 6 months of chronic conditions.[9] Psychotropic medication polypharmacy continues to be a major issue related to poor adherence.[10,11]

A recent review[7] of the literature addressing medication adherence interventions yielded relatively modest and disappointing outcomes. A few recent developments[12] offer some hope with practical interventions, but few theoretical explanations are available. Medical homes and case or disease-management teams, for example, are modestly effective at increasing medication compliance in chronic conditions.

In a review of the current approaches to nonadherence in medical care, van Dulmen et al[9] identified several categories of interventions: technical (simplifying the medication regimen), behavioral (reminders, monitoring, rewards), educational (didactic), social supportive (assertive community teams), structural (work place interventions), and complex (multiple interventions). Four interventions yielded modest effects: technical (mostly simplifying the dosage and packaging), behavioral, educational, and multifaceted, results that leave the field with an invitation to trial-and-error methodologies based on little theoretical basis. Replicating intuitive and pragmatic methodologies, an adopt-or-adapt approach, has not resulted in any significant understanding of the critical variables. The lack of theoretical models, the modest outcomes, and the difficulties in replicability raise the questions of what works and why.

De las Cuevas and colleagues[8] propose theory-based interventions to improve medication adherence that would allow for identification of determinants, replication, and efficient implementations. The authors use several social psychology theories to investigate control beliefs related to patient's adherence to treatment. For example, they investigate, in part, the potential role of the Health Belief Model, a theory of health behavior, on psychiatric patient adherence to treatment.[8] The model is based on an individual's beliefs and attitudes that determine the likelihood of whether he or she will engage in health-promoting behaviors. The model states that if an individual is at risk of a severe negative outcome, thinks that he or she is a likely target of health-promoting behavior, thinks that specific behaviors can decrease the severity of the outcome, and thinks that the challenges faced when engaging in the specific behaviors are surmountable, then the individual is likely to engage in those behaviors.[13] A cue is also necessary to trigger the health-promoting behavior. This model has been used to analyze medical regimen adherence.[14]

Theory-based models can, and must, be used to identify nonadherence attitude and behaviors and to provide focused, preventive, and remedial methodologies in the clinical setting. Using theory and evidence to understand and intervene is at the core of medical as well as psychiatric care. If psychopharmacologic interventions are rooted in theory-based clinical trials, why should treatment adherence be exempt from rigorous theory-based scientific studies that lead to targeted approaches?

Similarly, the puzzling resistance of clinicians and delays in adopting evidence-based practices is well documented.[15,16] While the evidence is often quite clear and uncontroversial, multiple efforts at implementation

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have yielded modest progress, mostly based on prescriptive, empirical, and pragmatic interventions that are not rooted in a particular theory.[17] Efforts are underway to analyze barriers to clinicians' implementation of evidence-based medicine based on well-studied social psychological models.[18] Since multiple theories of individual and organizational behavior exist, a tool was developed to provide consensus and validation in theories relating to clinicians behaviors. The Theoretical Domains Framework provides 12 domains: knowledge; skills; social/professional role and identity; beliefs about capabilities; beliefs about consequences; motivation and goals; memory, attention, and decision processes; environmental context and resources; social influences; emotion regulation; behavioral regulation; and nature of the behaviors.[19] The domains are used to explain behavior changes in the implementation research and its applications.

Using a pragmatic armamentarium to remedy nonadherence to treatment or evidenced-based medicine without fundamental understanding of behavior determinants is inefficient at best. This is why, over 150 years after Ignaz Philipp Semmelweis discovered that the most likely cause of postpartum puerperal fevers was clinicians' poor hand hygiene, we are still frustrated at clinicians' failure to fully comply with basic infection avoidance protocols.

If science insists on use of empirical data to develop theories that can be demonstrated or rejected based on experimentation, then much work remains to be done to understand and counteract patients' and clinicians' nonadherence. Some efforts have been made in behavioral health,[20–22] but they have drawn relatively little attention. We might consider heeding Sir William Osler's admonition: "The good physician treats the disease; the great physician treats the patient who has the disease."

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