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Capsule Commentary on Odineal et al., Effect of Mobile Device-Assisted N-of-1 Trial Participation on Analgesic Prescribing for Chronic Pain: Randomized Controlled Trial

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In this study, Odineal and colleagues[1] examined changes in prescription analgesic prescribing for approximately 200 patients with chronic pain randomized to either a mobile app–enabled N-of-1 study (tailored, individualized pain-control interventions) or a control group. The app allowed patients to choose two treatment plans to compare over several short trials, selecting from a list of commonly prescribed analgesics or non-pharmaceutical therapies such as yoga or physical therapy. Among intervention patients, the authors found a clinically and statistically significant decrease in NSAID prescriptions relative to controls. Nearly one-quarter of intervention patients stopped NSAIDs during the study period, and the between-group difference was also significant. The study also found that intervention patients had a clinically (but not statistically) significant reduction in opioid use among those prescribed at least 20 morphine milligram equivalents daily relative to controls. Deprescribing opioids can take many months, and the study may have been underpowered to demonstrate statistical significance among patients with opioid prescriptions, but the results show promise in tools that assist with opioid deprescribing.

Odineal et al. demonstrate that well-designed tools can support patients and clinicians in creating collaborative treatment plans that facilitate the deprescribing of ineffective medications. Many individuals start and remain on pain medications for many years despite long-term risks, some of which may have been started for acute use and transitioned into what others have referred to as "de facto long-term use".[2] Following the widespread media coverage of the opioid epidemic and the release of the 2016 Centers for Disease Control and Prevention opioid prescribing guidelines,[3] there have been reports of clinicians involuntary tapering patients down and refusing to prescribe opioids.[4, 5] This study demonstrates that there may be more effective, ethical, and patient-centered approaches to deprescribing.

An important limitation is that this approach requires time and engagement by both patients and clinicians. Our current system promotes short visits and prescription scripts over meaningful discussions about ineffective or inappropriate medication use, particularly in the primary care setting. Creating incentives that allow for the use of these types of personalized approaches will be critical to ensuring their effective implementation.

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Compliance with Ethical Standards:

Conflict of Interest: *The author declares that she does not have a conflict of interest.*

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