



Opinion



Continuous Measurement, Continuous Concern: Potential Effects of Wearable Health Technologies on Obsessive Health Behaviors

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Wearable health technologies have enabled individuals to access daily health data in real time. Continuous monitoring of heart rate, sleep patterns, physical activity, oxygen saturation, and similar parameters offers important opportunities to improve health awareness and support healthy lifestyle behaviors. However, these devices may not be beneficial for every user. In some individuals, they may intensify health-related thoughts and contribute to excessive self-monitoring, frequent checking of personal data, heightened attention to bodily sensations, and increased health anxiety. Ambiguous findings, limited clinical relevance, or false-positive alerts may generate unnecessary concern. Over time, this pattern may shift from preventive self-care to obsessive health behavior. Although wearable devices are valuable tools, the data they produce should be interpreted carefully and in light of the user's psychological profile. The phrase 'obsessive health behavior' used to describe the attitude of people here is not definitely reflecting to totally different entity which is obsessive compulsive disorder.

One of the most visible reflections of digitalization in medicine is the rapid expansion of wearable health technologies. Smartwatches, activity trackers, and sensor-based portable devices now allow individuals to access biological data not only in healthcare facilities but also throughout everyday life. Continuous tracking of heart rate, sleep duration, step count, energy expenditure, rhythm alerts, and oxygen saturation may provide users with a sense of active control over their health. At first glance, this appears to be a favorable development that supports healthy lifestyle behaviors.¹⁻⁴ This opinion article aims to discuss both the potential benefits and the possible psychological consequences of wearable health technologies, particularly in relation to health anxiety, obsessive health behaviors, and primary care practice.

In addition to their potential psychological risks, wearable health technologies may also provide important clinical and behavioral benefits for selected individuals. Recent studies have demonstrated that wearable devices may improve treatment adherence, increase self-awareness, support behavioral regulation, and enhance self-management in conditions such as attention-deficit/hyperactivity disorder and obsessive-compulsive disorder. Artificial intelligence-supported wearable systems may also contribute to individualized monitoring and early behavioral intervention in mental healthcare.⁵⁻⁷ Therefore, wearable technologies should not be viewed solely as sources of anxiety but rather as tools whose effects may vary depending on the psychological profile and clinical needs of the user. Wearable devices can increase motivation for exercise, support chronic disease follow-up, encourage lifestyle modification, and strengthen personal health awareness.²⁻⁴ Nevertheless, constant exposure to health data is not always beneficial. There is a subtle but important boundary between monitoring one's health and becoming excessively preoccupied with it. Wearables may encourage healthier choices through regular feedback, yet they may also lead some users to interpret normal physiological fluctuations as signs of disease.^{1,3}

Among individuals who are prone to health anxiety, a constant stream of data may reinforce distress rather than reassurance. Users may repeatedly check their devices in an attempt to relieve anxiety, but the reassurance is often temporary, creating a cycle of repeated checking that resembles obsessive control behavior. False-positive alerts may further intensify this process. A clinically insignificant variation flagged as abnormal may lead users to believe that they have a serious health problem. By the way cyberchondria is an online/device-driven health information seeking and anxiety escalation.⁸⁻¹¹

Primary care is likely to become one of the main settings where device-driven concerns are presented. Patients may seek help with statements such as: "My watch warned me about an irregular rhythm," "My sleep score was very low," "My oxygen saturation dropped for a while," or "My heart rate increased at night." Some of these visits may lead to early recognition of meaningful conditions, but many may originate from data with limited clinical

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Table 1. Potential benefits, psychological risks, and primary care considerations related to wearable health technologies

Populations potentially benefiting from wearable technologies	Populations potentially at higher psychological risk	Primary care considerations
Individuals with chronic diseases requiring self-monitoring	Individuals with health anxiety or cyberchondria	Evaluate whether device-generated findings are clinically meaningful
Patients requiring lifestyle modification and behavioral support	Individuals prone to repetitive checking or reassurance-seeking	Assess repetitive reassurance-seeking behaviors
Patients with attention-deficit/hyperactivity disorder (ADHD) or behavioral regulation difficulties	Individuals excessively focused on bodily sensations	Interpret wearable data within the broader clinical context
Individuals motivated to improve physical activity and sleep patterns	Users prone to excessive self-monitoring and repeated checking behaviors	Provide balanced counseling regarding the benefits and limitations of wearable technologies

significance.^{10,11} For this reason, family physicians should evaluate not only the device output itself but also the psychological effect of these outputs on the patient.

Wearable health technologies are not only technical tools but also systems that shape behavior. Through notifications, scores, goals, and alerts, these devices may support self-regulation in some individuals while generating performance pressure and feelings of inadequacy in others. When users fail to achieve ideal sleep, ideal step counts, or ideal heart-rate or rhythm metrics, they may experience frustration and self-blame. This may transform health promotion into a form of quantified perfectionism. The potential benefits, populations at higher psychological risk, and key primary care considerations related to wearable health technologies are summarized in Table 1.

Future studies should evaluate which patient groups benefit most from wearable health technologies and which groups may be more vulnerable to device-related anxiety and obsessive health behaviors. Interdisciplinary studies involving primary care, psychiatry, behavioral sciences, and digital health technologies are needed to better understand the long-term psychological and clinical effects of continuous self-monitoring systems.

This article is an opinion-based narrative discussion and does not represent a systematic review or meta-analysis. The interpretations presented are based on currently available literature and clinical perspectives regarding wearable health technologies and psychological well-being. Further large-scale prospective studies are needed to better clarify the long-term psychological effects of continuous self-monitoring and wearable device use.

Wearable health technologies should be evaluated not only in terms of technical accuracy and clinical utility but also in terms of their psychological effects. For users vulnerable to health anxiety, continuous self-monitoring may reinforce repetitive checking and reassurance-seeking behaviors rather than provide sustained reassurance. In primary care, physicians should interpret wearable-generated data within the broader clinical and psychological context of the patient, while identifying excessive device-checking, repeated reassurance-seeking, and anxiety-driven healthcare visits as potential signs that monitoring is becoming maladaptive.

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Conflict of interest

The authors declare no conflict of interest.

Author contributions

Study concept and design (MK), drafting of the manuscript (MK, MAB), critical revision of the manuscript for important intellectual content (MAB), administrative, technical, or material support (MK, MAB), and study supervision (MAB). Both authors have made significant contributions to this study and have approved the final manuscript.

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