

eMindLog™: mobile self-measurement of anxiety and depression

Opinion

Anxiety and depression are the biggest drivers of misery in the U.S. and globally (World Happiness Report 2017-UN Sustainable Development Solutions Network). The report concludes the most economical way to reduce misery is to successfully treat anxiety and depressive disorders. From a healthcare perspective, measuring anxiety and depression is fundamental for screening and monitoring change over time. Measurement based care demonstrates superior outcomes compared to standard practice. eMindLog™ is an optimal tool to achieve these objectives. eMindLog™ is a mobile health application available at eMindLog.com and as apps in iOS and Android platforms. It can be conveniently accessed on the web using smartphones, tablets and computers. It is secure and private, compliant with HIPAA requirements. It permits users to share their data with their provider through a portal, eMindLogPro™. eMindLog™ is free to users.

eMindLog™ measures anxiety and depression

eMindLog™ is a self-report measure of anxiety, depression and associated features. A daily component (17 questions) measures emotions, thinking and behavior. A weekly component (also 17 questions) assesses associated symptoms and quality of life/functioning. The experiences that commonly fluctuate are assessed daily, while those more easily averaged over longer periods are assessed weekly. This combination of daily/weekly appraisals minimizes the assessment burden without compromising the necessary information being gathered. For answers, users choose a number from 0-10, with prescriptive guidance - none (0), mild (1-3), moderate (4-6), severe (7-9) and extreme (10). A regular user requires 3-5minutes to complete each daily or weekly assessment. A total daily score provides a global measure for anxiety and depression. Four index scores for anxiety, sadness, anger and lack of pleasure, provide subscale scores for finer distinctions. Additional scores measure stress, quality of life and functioning (disability). Algorithms calculate thresholds for clinical anxiety and depression, reflective of standard diagnostic categories. A validation study reports excellent reliability and a strong convergent validity against a standard reference Penders et al.,¹ eMindLog™ permits tracking the flow of anxiety and depressive experiences over time. Information is graphed for easy tracking. Inherent in the display of information is the meaning of a number-as they are categorized and color-coded as 'mild', 'moderate' or 'severe'. eMindLog™ brings distinctive value to behavioral health. The individual provides the information in a standardized way, empowering them to be partners in their own care. The busy provider can glance at a graph and obtain the information necessary to guide treatment decisions.

eMindLog™ is based on current neuroscience knowledge

It distinguishes emotions, thoughts and behaviors, reflective of the 'joints' nature divides brain systems. It incorporates the inter-dependent relations between emotions, thoughts and behaviors to

reach beyond purely psychological measures, to incorporate brain circuit based knowledge. Subjective experiences mediated by threat versus reward brain systems are measured independently. eMindLog™ provides precision and accuracy by succinctly describing each clinical term, to preclude overlap between items.

eMindlog™

- For individuals, a measurement and tracking tool to quantify their anxiety and depressive experiences, vital signs of the mind.
- For healthcare entities, an electronic health record as a guidance for diagnosis and measurement-based care
- For corporations, a valuable tool for employee assistance programs
- For population based studies, a means to assess anxiety and depression
- For enterprises interested in aggregate big data, a tool for population based data in behavioral health.

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Conflicts of interest

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References

1. Thomas M Penders, Karl L Wuensch, Philip T Ninan. eMindLog: Self-Measurement of Anxiety and Depression Using Mobile Technology. *JMIR Res Protoc.* 2017;6(5):e98.

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