Behavioral activities collected through smartphones and the association with illness activity in bipolar disorder - DTU Orbit (17/08/2019)

Behavioral activities collected through smartphones and the association with illness activity in bipolar disorder

Smartphones are useful in symptom-monitoring in bipolar disorder (BD). Objective smartphone data reflecting illness activity could facilitate early treatment and act as outcome in efficacy trials. A total of 29 patients with BD presenting with moderate to severe levels of depressive and manic symptoms used a smartphone-based self-monitoring system during 12 weeks. Objective smartphone data on behavioral activities were collected. Symptoms were clinically assessed every second week using the Hamilton Depression Rating Scale and the Young Mania Rating Scale. Objective smartphone data correlated with symptom severity. The more severe the depressive symptoms (1) the longer the smartphone’s screen was “on”/day, (2) more received incoming calls/day, (3) fewer outgoing calls/day were made, (4) less answered incoming calls/day, (5) the patients moved less between cell towers IDs/day. Conversely, the more severe the manic symptoms (1) more outgoing text messages/day sent, (2) the phone calls/day were longer, (3) the fewer number of characters in incoming text messages/day, (4) the lower duration of outgoing calls/day, (5) the patients moved more between cell towers IDs/day. Further, objective smartphone data were able to discriminate between affective states. Objective smartphone data reflect illness severity, discriminates between affective states in BD and may facilitate the cooperation between patient and clinician.

General information
Publication status: Published
Organisations: Copenhagen Center for Health Technology, Department of Applied Mathematics and Computer Science, Embedded Systems Engineering, Psychiatric Center Copenhagen, Rigshospitalet, IT University of Copenhagen
Contributors: Faurholt-Jepsen, M., Vinberg, M., Frost, M., Debel, S., Christensen, E. M., Bardram, J. E., Kessing, L. V.
Number of pages: 15
Pages: 309–323
Publication date: 2016
Peer-reviewed: Yes

Publication information
Volume: 25
Issue number: 4
ISSN (Print): 1557-0657
Ratings:
Scopus rating (2016): CiteScore 3 SJR 1.645 SNIP 1.648
Web of Science (2016): Impact factor 3.176
Original language: English
Keywords: Bipolar disorder, Smartphone, Illness activity, Automatically generated objective data, Objective outcome measure
DOIs:
10.1002/mpr.1502
Source: PublicationPreSubmission
Source-ID: 123340419
Research output: Contribution to journal › Journal article – Annual report year: 2016 › Research › peer-review