

## Experience of a digital platform (Curelator Headache<sup>®</sup>) for management of patients with migraine

Jitka Vanderpol MD, and Stephen Donoghue PhD<sup>1</sup>

Cumbria Partnership NHS Foundation Trust, Penrith, UK and <sup>1</sup>Curelator Inc. Cambridge, MA, USA

**Background:** Curelator Headache<sup>®</sup> consists of 1) a clinician's dashboard for patient management and 2) a patient's App to prospectively record migraine attacks and daily exposure to factors that may be associated with their attacks. Using this, patients' migraines can be tracked and response to changes in management strategy monitored remotely, with less need for clinic visits. Also, migraineurs frequently suspect many migraine triggers, this is usually based on (unreliable) retrospective recall. As such, patients find it difficult to try (complimentary) self-management strategies that may be of benefit to them. Thus an important aspect of Curelator Headache is to help patients identify which suspected triggers really are associated with attacks, by using personalized N=1 statistics.

**Aims:** To describe how Curelator Headache is used 1) clinically to monitor and manage patients and 2) to help patients understand factors that may affect their migraine attack risk.

**Methods:** Individuals with migraine are invited by email via the dashboard and access Curelator Headache via the App. Patients complete a questionnaire about their migraine history and suspected triggers, then use the App daily for 90 days entering details about headaches and tracking a range of factors that may affect attack occurrence. Their factors are analyzed after 90 days and they receive a personal feedback report summarizing migraine diary data and showing which factors may be potential triggers, 'protectors' or show no association.

**Results:** The dashboard has been in use in the Cumbria Centre for approximately 10 months. 49 patients have been invited to the App and to date 18 have started using it, with 6 completing the initial 90 days and receiving their personal feedback report. The dashboard has been easy to use, has facilitated remote patient monitoring and provided valuable information for discussion at clinic visits.

**Discussion:** Curelator Inc. has been publishing extensively on its analytical methods and findings from a large user group (1). An example of the findings are that in 528 individuals with migraine each suspected between 3 and 47 different triggers; mean (SD) = 23.6 (12.7). Most frequently suspected were: neck pain, stress, eyestrain, bright light, menstruation, fatigue, odors, dehydration, missed meals, travel, sleep duration, and sleep quality. Of these, on average (SD) only 3.4 (2.8) (15%) were statistically associated with attack occurrence. A further 12.5 (7.7) (53%) were shown to have NO statistical association to attacks and for 5.5 (4.6) (23%) there was not enough data to determine an association.

**Conclusion:** Experience in Cumbria shows that Curelator Headache is proving to be a useful tool for clinician review of patient's data. Patients find the information about their personal potential triggers, 'protectors' and 'not associated' factors interesting, engaging, often surprising and useful for identifying potentially beneficial lifestyle changes and for gaining a greater insight and control over their often disabling condition.

(1) Further information: [curelator.com](http://curelator.com)