13th World congress on

Addictive Disorders & Addiction Therapy

October 24-25, 2024

Webinar

Smartphone based drug detection applied in addiction care: Experiences from introduction of the tool in real patient cohorts

Markku Hämäläinen[1], Johan Månflod[2], Maria Winkvist[1] and **Karl Andersson[3]**

[1]Kontigo Care AB, Sweden
[2]Gottsunda Primary care center, Sweden
[3]Skillsta Teknik, Design och Kvalitet AB, Sweden

Statement of the Problem: Frequent location-unbound monitoring of drug use in patients with substance use disorder is an attractive tool for intensive out-patient care.

Methodology & Theoretical Orientation: The eHealth system Previct® Drugs is a CE-marked mobile phone-based medical device which can detect the use of opioids, central stimulants and benzodiazepines and high concentrations of cannabis and alcohol through self-administered eye-scans. The caregiver accesses test results in a web-portal. In parallel with drug testing, the system can be used to provide therapy (e.g. CBT, MI, 12-step) to support the patient's ability to stay sober. The eHealth system has been evaluated in two clinical trials, one on performance (1) and one on usability (2). In this poster we discuss results from 10 healthcare providers in Sweden who implemented Previct Drugs to support sobriety and treatment of ~30 patients with substance use disorders.

Findings: The Previct Drugs eHealth system is user-friendly, with a usability rating for the app of 4 out of 5, even for patients with severe substance use disorders, including those in an intoxicated state (2). Patients can now perform drug tests independently at home, reducing the need for travelling, supervised testing and thus helping to reduce stigma. Among the 20 patients that used the product more than one week, a continuous stream of sobriety test results was collected. While some patients dropped out, others continued to find value in Previct Drugs, as it supported their sobriety and simplified refusal of drugs. Care providers also saw benefits, with early identification of relapses allowing for prompt interventions and improved trust with loved ones.

Conclusion & Significance: For motivated patients with substance use disorder, an eHealth platform like Previct Drugs can provide essential support in the strive towards sobriety. Access to time-resolved drug sensor data may yield overall results similar to what have been published for Previct Alcohol (3, 4, 5).
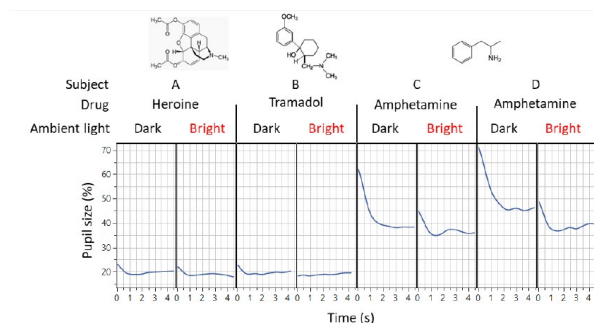
Figure 1. Pupil reactions to opioids (A, B) and phenethylamines (C, D) for four subjects at two ambient light conditions (~50 and ~500 Lux). At time 0 the flashlight of the smart phone is activated, and the decrease in pupil size is followed during ~4 s.

Biography

Markku Hämäläinen has a bachelor's degree in organic chemistry and a PhD in chemometrics. He has published more than 50 scientific papers and patents (h-index 27, i10-index 38). Markku worked previously >20 years as senior scientist and black-belt at the R&D-department of GE Healthcare Life Sciences developing systems for fragment-based drug screening. Since 2014 he has worked as chief scientific officer at Kontigo Care AB, an eHealth-company focusing on the development of new digital tools for successful addiction care. He has designed four clinical trials that provided data demonstrating the effectiveness of the eHealth systems Previct® Alcohol and Previct® Drugs for monitoring alcohol and drug sobriety during treatment of patients with substance use disorders.