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Development of Artificial Intelligence-Based Comprehensive Assessment and Psychological Intervention System and its clinical application in drug dependence

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Hintergrund und Fragestellung
Addiction disorders are a global public health problem. Several reasons such as Inequitable resources cause the low access rate for patients to see the doctor. Automated conversational agents have been developed to provide self-help psychotherapy and evaluation. However, the current dialogue agents often use text to interact with the subject, and it affects the interaction experience and clinical efficacy. The aim of this study is to describe the design and development of the artificial intelligence (AI)-based virtual digital psychotherapist APP, which was developed with AI and virtual digital human technology, and then to perform a pilot clinical study to verify the preliminary efficacy of the APP for patients with addiction.

Methoden
The APP was developed for addiction disorder by a cooperative group of psychotherapists, doctors, and computer scientists. The APP has an assessment module for evaluating the key symptoms of addiction, like craving level. For the treatment module, the APP provides CBT-based psychotherapy including 10 treatment sessions, involving emotion regulation, motivation enhancement, and so on. Forty-seven patients with drug dependence were included and to receive one session of the APP–based motivational enhancement treatment. Before and after the treatment, the patients will receive the clinical evaluation in several aspects, including treatment motivation and craving.

Ergebnisse
The clinical study found that the treatment motivation significantly increased after the APP–based treatment ($P<0.001$), and the craving was decreased ($P=0.01$). Patients' baseline anxiety level ($P<0.001$) and Barratt Impulsiveness Scale–motor impulsiveness score ($P=0.04$) significantly predicted the change of the treatment motivation during treatment. Most participants were satisfied with the functions of the APP.

Diskussion und Schlussfolgerung
The AI-based virtual digital psychotherapist APP is a potential program for treating drug dependence. The preliminary findings provide evidence for further optimization and promotion of the AI-based program for psychosocial work in drug dependence area.

OFFENLEGUNG VON INTERESSENSKONFLIKTEN SOWIE FÖRDERUNGEN
Interessenskonflikte: Ich und die Koautorinnen und Koautoren erklären, dass während der letzten 3 Jahre keine wirtschaftlichen Vorteile oder persönlichen Verbindungen bestanden, die die Arbeit zum eingereichten Abstract beeinflusst haben könnten.

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