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A Smartphone Attention Bias App for Individuals With Addictive Disorders: Feasibility and Acceptability Study

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Abstract (600 word limits)

Background: Conventional psychology therapies are unable to address automatic biases that result in individuals relapsing into their substance use disorder. Advances in experimental psychology have led to a better understanding of attention and approach biases and methods to modify these biases. Several studies have demonstrated the effectiveness of bias modification among clinical cohorts. The advances in mobile health technologies have allowed remote delivery of these interventions. To date, there is a lack of studies examining bias modification in a substance-using non-Western sample.

Objective: This study was designed to determine the feasibility of an attention bias modification intervention and an attention bias modification smartphone app for the reduction of attention biases among treatment-seeking individuals. The secondary aim is to determine the acceptability of the intervention.

Methods: A feasibility study was conducted among inpatients who were in their rehabilitation phase at the National Addictions Management Service. Participants were to complete a set of baseline questionnaires, and on each day that they are in the study, undertake an attention bias assessment and modification task while completing a visual analogue scale to assess their craving. Feasibility was determined by the acceptance rate of participation and participants' adherence to the interventions. Acceptability was assessed by a perception questionnaire. Descriptive statistical analyses were performed using SPSS version 22. A thematic analysis approach was used in the qualitative synthesis of users' perceptions.

Results: Of the 40 participants invited to participate in the feasibility study, 10 declined, yielding an acceptance rate of 75%. Of the recruited participants, 6 participants were diagnosed with alcohol dependence; 17, with opioid dependence; 2, with cannabis dependence; and 5, with stimulant dependence. In addition, of the final 30 participants, 11 (37%) failed to complete all the planned interventions and 22 (73%) completed the perspective questionnaires; of these 22 participants, 100% rated the app as extremely and very easy, 77% rated it as extremely or very interactive, 54% rated it as extremely or very motivating, and 33% reported a change in their confidence levels.

Conclusions: Our results highlight the feasibility of recruiting participants to undertake attention bias modification interventions. Participants generally accept use of a mobile version of such an intervention. Nevertheless, our acceptability data indicate that there could be improvements in the existing app, and a participatory design approach might be helpful in its future conceptualization.

Biography (200 word limit)

Melvyn Zhang is a Consultant Psychiatrist at the National Addictions Management Service, Instituteof Mental Health. He is also an Adjunct Assistant Professor with the Lee Kong Chian School of Medicine, Nanyang Technological University Singapore. His research interests are that of addiction psychiatry, E-health and M-Health. He serves on the editorial board of JMIR Mental Health and Technology and Healthcare. He has widely published, with a total of 109 publications indexed on PubMed and is the main author of the Get Through MRCPsych series by Taylor & Francis/CRC Press.

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