The Use of Ecological Momentary Assessment with Lifestyle Group Intervention on Individuals with Depressive Symptoms: A Pilot Randomised Controlled Trial

Abstract

Objective: This study aimed to examine the effectiveness of lifestyle group interventions with Ecological Momentary Assessment (EMA) in reducing symptoms of depression.
Methods: A pilot randomized controlled trial was conducted with 51 adult participants with depression of moderate level. Participants were randomly assigned to a 7-week lifestyle intervention program with or without self-tracking tools or a control group. Guided by the transtheoretical model, the lifestyle intervention included components such as dietary coaching, physical activity promotion, sleep and stress management, and goal setting. Assessments of depressive symptoms were administered at baseline, 1-week post-intervention, and 12-week follow-up.
Results: Although no significant difference was found between groups for Patient Health Questionnaire-9 (PHQ-9) $p > 0.05$, the findings showed significant improvement in health-promoting behaviours with LM group interventions for depression, $p = 0.001$. The incorporation of EMA in LM interventions yielded increased perceived credibility post-intervention, $p < 0.05$.
Conclusions: These findings suggest that lifestyle interventions with EMA showed the potential in improving treatment credibility and adherence. Future studies with adequate sample sizes should focus on optimizing EMA feedback delivery and testing its differential effects on lifestyle group intervention outcomes.

Introduction

Depression is a common mental disorder (CMD) that is adversely affecting an estimated 5% of adults globally and approximately 280 million people have depression (Word Health Organisation, 2023). Depression, as defined by the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5; American Psychiatric Association, 2013), is characterised by persistently depressed mood and loss of interest, with disturbances in sleep, appetite, energy, and self-worth. These symptoms exert a debilitating effect on individuals' wellbeing, such that untreated depression poses substantial personal and societal costs. Studies have shown that depressed adults engaged in low levels of physical activity and high levels of sedentary behaviours (Schuch & Vancampfort, 2017). Depression was also shown to be associated with a higher risk of developing metabolic and cardiovascular diseases, as well as worse outcomes for comorbid conditions (Hare & Toukhsati et al., 2014; Kang et al., 2015). Depression was one of the leading causes of disability and is projected to rank first with 6% of total Disability Adjusted Life Years (DALYs) in 2030 (World Health Organisation, 2023). It was estimated that depression costs the global economy 1 trillion in lost productivity annually (Abate et al., 2018). There is a pressing need for research in mental health treatment for depression.

Despite effective and evidence-based treatment models for symptoms of depression, as such psychotherapy interventions as well as second-generation antidepressants, these treatments