EP064

A MAPPING REVIEW OF BEHAVIOUR CHANGE TECHNIQUES IN DIGITAL DEPRESSION APPLICATION USING COM-B AND EAST FRAMEWORK



MINISTRY OF HEALTH MALAYSIA
INSTITUTE FOR HEALTH BEHAVIOURAL RESEARCH

Nur Syazmin, Sies[1,2], Asma', Khalil[1,2],Aimi Nadira, Mat Ruzlin[2] ,Zahir Izuan, Azhar[2], Saiful Adli, Suhaimi[1], Xin Wee, Chen[2*]

[1]Ministry of Health, Malaysia

[2] Department of Public Health Medicine, Faculty of Medicine, UiTM Sungai Buloh

Introduction

Digital mental health interventions (DMHIs) are a rising alternative to bypass stigma in depression management. While their clinical effectiveness is widely studied, the behaviour change techniques (BCTs) that drive these outcomes remain underexplored, particularly in terms of how they are integrated into DMHIs to achieve effective digital design and sustained user engagement.

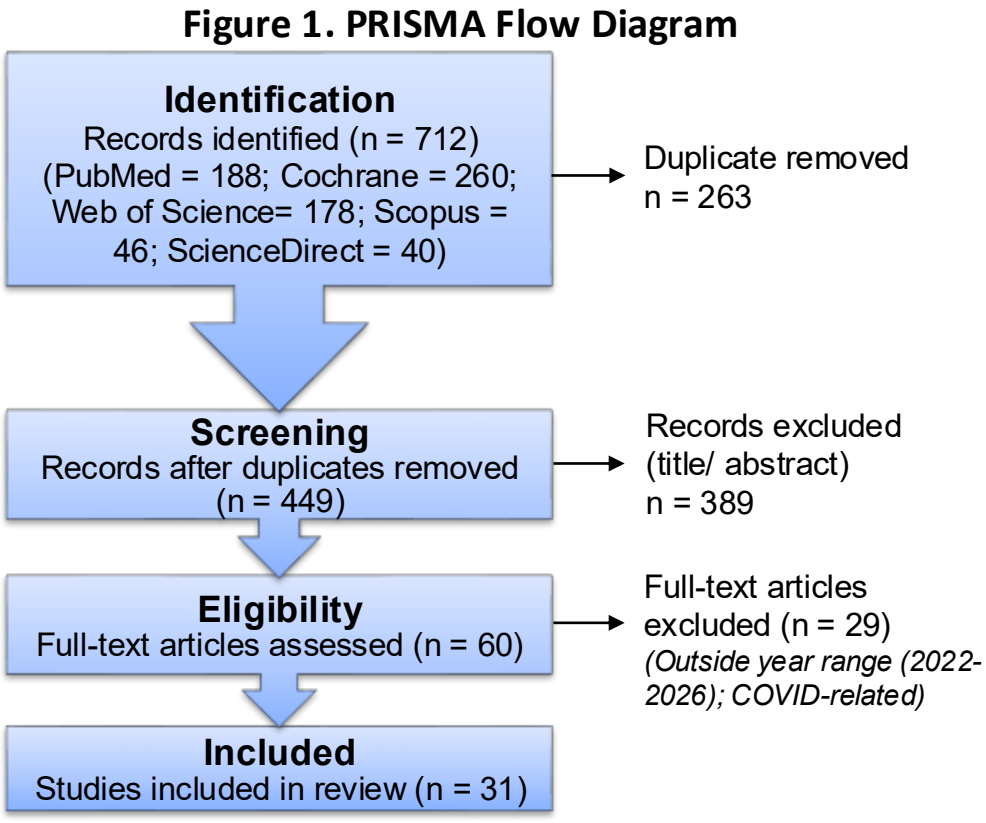
Objectives

This review aims to map the BCTs used by current DMHIs to the domains of the COM-B (Capability, Opportunity, Motivation-Behaviour) model and the EAST (Easy, Attractive, Social, Timely) framework.

Methodology

- A systematic search was conducted in PubMed, Scopus, ScienceDirect, Cochrane, and Web of Science.
- Inclusion and exclusion criteria were applied
- Keywords related to adults, mobile applications, and depression were used.
- Search results were exported to Rayyan for screening.
- Title/abstract screening, full-text review, and data extraction were performed independently by two reviewers.
- The methodological quality of included studies was assessed using the Cochrane Risk of Bias tool.
- Digital features were coded using the Behaviour Change Techniques (BCT) Taxonomy v1 and mapped to the COM-B model and EAST framework.

Figure 1. PRISMA Flow Diagram



Results

- A total of **712 records** were identified, of which **31 RCTs** were included (Figure 1).
- The most targeted COM-B domains were **psychological capability (81%)** and **reflective motivation (68%)**,
- Within the EAST framework, **94% of applications incorporated the 'Easy' principle**, primarily through simplified interfaces and structured guidance.
- In contrast, **'Social' and reward-based features were rarely implemented (3%)**, highlighting limited integration of peer support and engagement mechanisms.
- Methodological quality: moderate–strong; low risk of bias
- Although **attrition remained a common limitation**, most studies addressed this through **Intention-to-Treat (ITT) analyses**, reducing the impact of dropout on study validity.

Discussion and Conclusion

• Interventions mainly target **capability and motivation**, with limited focus on **opportunity and social components**
• Evidence suggests a **capability–engagement trade-off**, where higher cognitive demand may reduce adherence
• Applying EAST highlights, the importance of **Easy, Attractive, and Timely delivery**
• Social and support features improve outcomes but remain **underutilised**
• Effective interventions require integration of **COM-B components** with **engaging, low-friction design**
• Future development should prioritise **social support and real-world usability** to enhance long-term effectiveness

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