A CONTENT ANALYSIS AND ETHICAL REVIEW OF MOBILE APPLICATIONS FOR DEPRESSION: EXPLORING THE APP MARKETPLACE

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BACKGROUND

- Research investigating publicly available mobile apps for depression have shown a range of concerns from limited research evidence¹⁰, poor treatment fidelity¹⁰, and issues with privacy and data security⁸•⁸.
- This study advances this work through a content analysis and ethical review of app store listings of apps for depression
- Whilst past content analyses and app reviews have highlighted some ethical and safety concerns, there has been no focused ethical review to consider how these issues may present to potential users who seek to find help through the app stores
- This research is part of a larger work in progress aimed at developing an ethical framework for mobile mental health

RESULTS

We identified a total of 353 eligible apps for depression
Treatment approach varied across apps
- 24 different treatment approaches were listed
- Most apps (203/353) used a single treatment approach

The network below shows the 10 most used treatment approaches for all apps (n=353), proportionate in size to frequency of use. It also highlights connections between the use of different treatment approaches for apps using multiple approaches (150/353)

![Network of most used treatment approaches](image)

Treatment strategies also varied across apps
- 34 different strategies were listed with the 5 most used being:
  1. Monitoring and tracking (108/353)
  2. Mindfulness/Meditation (54/353)
  3. Emotional awareness (41/353)
  4. Relaxation (41/353)
  5. Peer support (34/353)

![Exploring ethical issues of apps for depression](image)

DISCUSSION

- Despite advances in mobile mental health, commercial mental health apps continue to trail in evidence and practice
- Psychoeducation continues to dominate the approaches, while non-evidence-based approaches and strategies for depression are widely used by developers. There is need for greater research into the efficacy and outcomes of these strategies and combinations of treatment
- There is also great need for increased transparency of information to help users to make informed and safe choices, including information on treatment approaches, research evidence for their effectiveness, and the potential benefits and harms of each approach
- We have organised these issues using the APA’s ethical principles with the aim of evolving the application of these principle to present a framework for the development and utilization of mobile apps for mental health

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¹ Ilona Sunram-Lea, PhD, MSc, RE, Marie, Mada, PhD, RE, Maria Lopez, PhD, RE, and Trevor, PhD, RE. (2019). Finding a mobile app: A review and content analysis of the depression app marketplace. JMIR mHealth and uHealth, 7(4), e13119.