

There's an App For That:



University of Victoria

Intersecting mHealth and Depression Research

More research needed

Desired features still mostly unknown

Larger sample sizes needed

Allows for a greater sense of anonymity

Personal phone use --> Greater adherence & benefits

Emotional Self Awareness can help reduce depression levels

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March 9, 2016
This research was supported by the Jamie Cassels Undergraduate Research Award
University of Victoria
Supervised by Dr. Elizabeth Borycki

Introduction:

Mental health, especially depression, is a growing global concern. According to the World Health Organization, approximately 350 million people suffer from depression ("Depression", 2015). Presently, many people own at least one mobile device and use various types of applications. It is believed that the assimilation of using such devices to treat depression will be higher than the use of internet applications (Ly, Dahl, Carlbring, & Andersson, 2012). The objective of this study is to review the current literature on how mobile applications can be used to treat depression.

Methods:

- The Pubmed and Medline databases were searched for studies published between 2005 and 2016 written in English. The search terms used were: mobile health AND Depression, mobile AND intervention AND depression, mobile AND health AND application AND depression, smartphone AND application AND depression
- For the purpose of this study the following terms are defined as follows:
 - Depression: A mental health disorder where the person feels continuously sad, usually referred to as major depressive disorder. Does not include bipolar or caused by any external factor such as postpartum or post traumatic stress disorder.
 - Application: A program installed on a mobile device that does not require the use of an internet browser.
 - Mobile Device: A portable device commonly referred to as a cell phone, smartphone, or tablet.

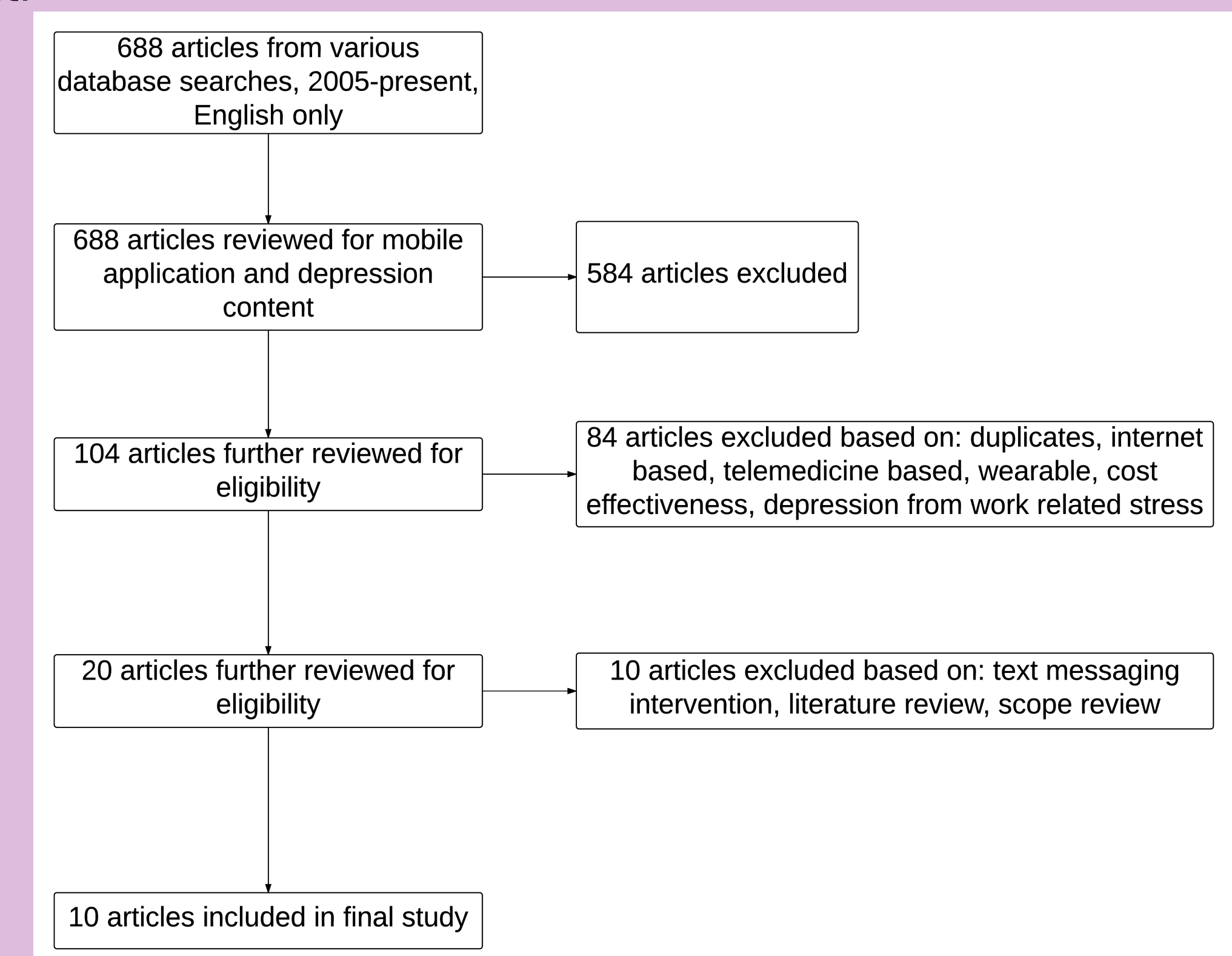


Figure 1: Article Selection Process

adapted from Consort Flow Chart (www.consort-solutions.org), a recognized system of database analysis

Results:

- The study design types used were very limited
 - 5 were randomized control studies
 - 2 were surveys
 - 3 unique studies (field study, pre-test-post-test quasi-experimental study, combination of focus group/interviews/surveys)
- The studies that allowed the test participants to use their own device rather than a particular device provided to them by the study had a higher adherence rate overall
 - A study, using personal devices, that looked at a mobile version of the PHQ-9 versus the usual paper questionnaire had a response rate of 77.8% (Torous et al., 2015)
 - Meanwhile, a study that provided a mobile phone to each participant only had an adherence rate of 63.2% (Reid et al., 2011)
- Two separate survey studies indicated that community interest exists:
 - One survey study reported that 69% of their 100 respondents, and 78% of the participants under the age of 30, wanted to use a mental health app (Torous, Friedman, & Keshavan, 2014)
 - Another study reported that 76% of the survey group and 70% of the focus group participants would definitely or likely be interested in having a mobile application to self monitor and manage their mental health (Proudfoot et al., 2010)
- Only one study focused on the features that a mental health app should include
 - Approximately 94% of the participants would want the app to have a username and password
 - The length of one session should be around 5 minutes
 - Some sort of feedback, ideally in graphs and tables, was wanted by 93% of the participants
 - 89% reported they would like a form of self help suggestions
 - And lastly, about 86% participants said they would allow their doctors to have access to the data (Proudfoot et al., 2010)
- The applications investigated applied different types of therapy
 - Cognitive Behavioural Therapy (Watts et al., 2013)
 - Emotional Self Awareness (Kauer et al., 2012; Reid et al., 2011)
 - Ecological Momentary Intervention (Burns et al., 2011)
 - Behavioural Activation (Ly, Carlbring, & Andersson, 2012; Ly et al., 2015)
 - Acceptance and Commitment Therapy (Ly, Dahl, Carlbring, & Andersson, 2012)

Conclusion:

- The community is interested in using their own devices, which they already use on a daily basis, to self monitor and manage their mental health
- Security and privacy still remain a major concern as the applications would store confidential information
- Although some excellent research as been done exploring the idea of using mobile devices to help treat and overcome depression, there is still significant room for further research
 - More studies evaluating particular apps
 - Some of the above studies should be replicated with larger sample sizes
 - Other study designs should be used such as cohort studies and usability testing