PILOT STUDY RESULTS
OVERVIEW

SARS-CoV-2 caused increases in stress, anxiety, loneliness, and worry. These psychological concerns may continue long after the pandemic is over. Easily accessible interventions are needed to address these issues. Therefore, we developed and pilot tested the See Me Serene mHealth app. The app provides users with immersive, vivid, nature experiences to reduce stress and anxiety related to COVID-19 and other isolation.

The study was conducted between May and December 2020 in two phases: Phase 1: Develop See Me Serene app; and Phase 2: Conduct a pilot study with 100 participants. The study was reviewed and approved by the University of Arizona Institutional Board (Protocol #2005625231).

IN PHASE 1

The research team generated ideas for app content based on previous research. We drafted guided imagery scripts and identified resources and functions to include in the app. We solicited feedback from potential users and finalized app content based on that feedback. We programmed and tested the app, and then deployed iOS and Android versions to the App Store and Google Play Store.

DURING PHASE 2

We conducted a pilot study of See Me Serene feasibility and potential impact on anxiety.

We recruited 101 participants over two months. We collected data from participants when they enrolled in the study, and then again after four weeks of using the app. Participants completed online surveys (measuring stress, anxiety, loneliness, and worry, and use of Guided Imagery and other forms of relaxation) and submitted saliva samples that were analyzed for cortisol (a biomarker of stress) at both time points. We also automatically collected data on app use, including the number of times the app and the audio files were used. At the four-week survey, we also collected usability and consumer satisfaction information.

The study team was focused on determining if the study procedures were feasible. Secondary outcomes were related to participant adherence to study protocols, usability and satisfaction with the app, and preliminary data on the potential impact of See Me Serene on participants’ stress, anxiety, loneliness, and worry.
WE MET OR SURPASSED ALL OUR FEASIBILITY BENCHMARKS

Feasibility Benchmark
- Enroll 100 participants in 2 months
  - Actual outcome: Recruited 101 participants in 2 months
- Collect at least 90% of baseline survey data
  - Actual outcome: Collected 98% of baseline survey data
- Collect at least 75% of 30-day survey data
  - Actual outcome: Collected 91% of 30-day survey data
- Collect at least 75% of cortisol data
  - Actual outcome: Collected 85% of cortisol data
- Retain 75% of participant retention at 30 days
  - Actual outcome: Retained 85% of participants at 30 days
ADHERENCE

Participants listened to an average of 48.2 audio files over 30 days which equates to approximately 1.6 files per day. Participants reported a significant increase in time spent using Guided Imagery (t = -9.94, df 89, p<.001) and other forms of meditation (t = -7.34, df 89, p<.001) from baseline to four-week follow-up.

USABILITY & SATISFACTION

Overall, the 90 participants retained at the 30-day follow-up found the app usable and were satisfied with the See Me Serene app. On individual items (e.g., ease of use, helpfulness, etc.), the vast majority of the participants rated the app positively.

Suggestions for improving the app included: increasing audio file length; providing more variety in the Guided Imagery scenarios (e.g., more nature-focused Guided Imagery); customizing the narrator’s voice and background music or sounds; allowing users to save their favorite audio files to a library within the app; and providing users the ability to track their use of the app and easily return to where they were.
We found preliminary evidence that the See Me Serene app may have the potential to reduce anxiety. Although this study was not designed to test efficacy (the ability to produce an intended result) and had a small sample size, we found significant reductions in all outcome variables with small to medium effect sizes. We did not find significant differences in cortisol levels over time, although we found trends in the expected direction.

Participants also provided comments via email and through the final survey. The vast majority of these comments were positive, expressing confidence in the See Me Serene app.

“I had minor surgery this morning. I used my See Me Serene breathing and visualization to keep me calm through the needle sticks. It worked!”

— SEE ME SERENE PARTICIPANT
CONCLUSIONS

The study results suggest that delivering and testing the See Me Serene mHealth app is feasible and that the app has the potential to reduce stress related to COVID-19 and other forms of social isolation. There is a great need for evidence based and easily distributed stress-reduction interventions as most available stress management apps are not evidence based. More research is warranted to test the efficacy of See Me Serene in a study with a larger number of participants.

NEXT STEPS

We have updated the See Me Serene app based on participant feedback and developed a similar app that does not use Guided Imagery. We plan to conduct another pilot feasibility study to compare the two apps. In the future, we plan to conduct a large-scale study designed to test the efficacy of See Me Serene.

Contact Information

To contact us regarding the See Me Serene app, please email seemeserene@email.arizona.edu

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