Research Experience During COVID-19: Implementing Remote Procedures to Explore Daytime Symptoms and Cognitive Function Among Older Adults with Insomnia

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What is the Methodological Question Being Addressed? How can investigative teams adapt in-person clinical protocols for successful remote administration during COVID-19?

Introduction The global COVID-19 pandemic has resulted in significant challenges to healthcare delivery and biomedical research. Due to federal safety guidelines and supply chain barriers, conducting clinical research has been difficult, particularly in recruitment and other key areas. The purpose of this study is to describe the successful adaptation of an in-person cohort study (of insomnia among community-dwelling older adults) to an entirely remote approach.

Methods Prior to the onset of COVID-19, study protocols were developed and approved by the Institutional Review Board (IRB) at University of Maryland, Baltimore. Approved research methods included in-person recruitment, enrollment, and data capture including questionnaire completion, clinical interviews, neurocognitive testing, and home sleep apnea testing and actigraphy setup. The onset of COVID-19 occurred prior to enrollment of any participants. As the global pandemic progressed, the research team adapted to this new circumstance. Modifications were developed and approved by the IRB, including an expansion of recruitment pathways and replacing all in-person activities with telephonic (e.g., Brief Test of Adult Cognition by Telephone) and computer-based procedures. Additionally, home sleep apnea tests, actigraphy set-up, and training on using a mobile app were conducted by phone, with supplies delivered by FedEx. Participants completed a post-satisfaction survey via an online survey platform.

Results Participants included 31 older adults who met DSM-V diagnostic criteria for insomnia disorder (67.5 [sd 6.6] years) and 35 older adults without sleep disorders (70.4 [sd 5.6] years). Complete remote data capture was successful for self-report questionnaires (98%), home sleep apnea testing (84%), actigraphy (98%), as well as cognitive assessment via telephone (100%) and participant home desktop computer (72%). In addition, participants completed 98% of 56 surveys administered via smartphone during the two-week study period (i.e., ecological momentary assessment). To date, satisfaction survey results have indicated that 87.8% of participants would “probably” or “definitely” participate in this remote study again, and 87.8% of participants would

“recommend” or “strongly recommend” this approach to others. Following completion of data capture, the research team debriefed and identified 11 recommendations for remote study execution in four domains: research team, remote procedures, recruitment, and data preparation.

Conclusion COVID-19 has presented substantial challenges to clinical research. However, present findings demonstrate that researchers are still able to conduct high-quality clinical research by adopting a fully remote approach.

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Keywords

Keywords
remote administration
remote study
COVID-19
study recommendations

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Disclosures One or more authors report potential conflicts which are described in the program.

This research was supported by an investigator-initiated research award from the Merck Investigator Studies Program to the University of Maryland, Baltimore (PI: EMW).

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