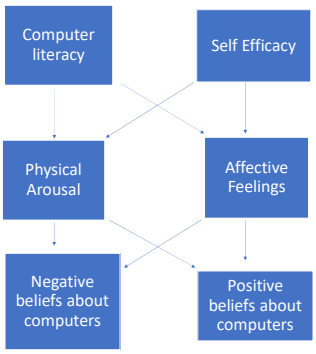
Technology Use in Relation to Cognitive Function and Depression in Older Adults with HIV

Rochelle O'Brien, BS[1], Atami De Main, PhD[2], Eugenia Siegler, MD[2], Marshall Glesby, MD, PhD[1], Carrie Johnston, MD, MS[1]
[1]Weill Cornell Medicine, Division of Infectious Diseases New York, NY, USA
[2]Weill Cornell Medicine, Division of Geriatric and Palliative New York, NY, USA

Background

- Sociodemographic factors and poor technology literacy may be barriers to technology access for older adults. Older adults are less likely to use technology than young people[1]
- People living with HIV (PLWH) are at increased risk for depression as well as early neurocognitive decline due to:
  - Burden of comorbidities
  - HIV-related stigma
  - Loneliness



A six-factor model of computer anxiety (Beckers & Schmidt, 2001)

- Although there is growing evidence that engagement with computers and smart technology devices is beneficial to cognitive functioning in older adults, data about smartphone and tablet use among older people living with HIV (PLWH) is limited.

The objective of the study was to examine PLWH's current use of smart technology devices and assess the relationships among technology use, neurocognitive function, and depression.

Methods

Sample population

- 115 participants, aged 55 years and older, were randomly selected from the Research on Older Adults 2.0 HIV survey, and agreed to an additional in-person study visit.

Procedures

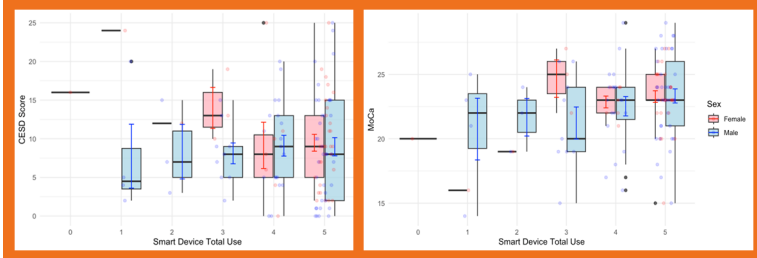
- Center for Epidemiologic Studies Depression Scale (CES-D 10) questionnaire was administered interview style; Montreal Cognitive Assessment (MoCA) was administered in English for all participants.
- Participants were asked interview style about ownership/use of a smartphone or tablet in the following ways:
  - Do you own a smartphone? (Yes/No)
  - Do you use it for email?
  - Do you use it for surfing the web?
  - Do you use it for social media?
  - Do you use it to communicate with your healthcare provider, or use the MyChart app?

Analysis

- Analysis of Variance (ANOVA), Pearson's R, and the Welch Two Sample T-Test statistical tests were performed using the R-Studio 4.4.1 software.

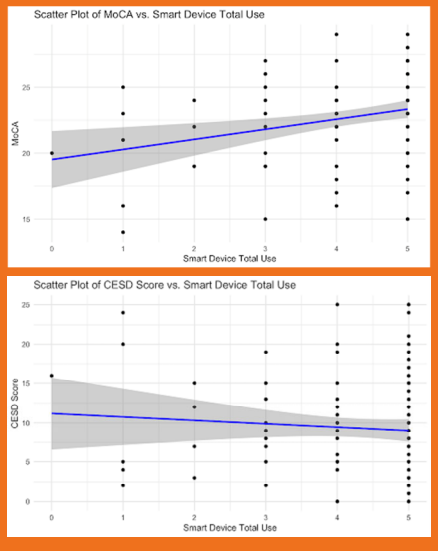
Results

Spread(s) of CESD and MoCA Scores by Smart Device Use and Sex



114 (99.1%) of respondents reported owning a smart phone or tablet, which they used for 1) email (88.7 %), 2) surfing the web (86.1%), 3) social media (69.6%), and 4) communication with health care providers via a secure app and/or web portal (79.1%)

Greater use of smart devices was not associated with higher depression scores but may be associated with higher MoCA scores amongst people living with HIV (PLWH).



Discussion and Conclusions

- The potential beneficial effects of technology use might be attenuated in PLWH, specifically in those with depressive symptoms and early neurocognitive decline.
- Additional efforts may be needed to connect PLWH to their communities and improve technology literacy to enhance engagement with technology and help reduce the risk for early cognitive decline.
- Improving resources dedicated to education and implementation of technology use may be beneficial to this population.
- The difference in spread by sex in subjects who scored a three (3) in total use could be interesting to investigate.

Acknowledgements

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References

[1]Beckers, J.J., & Schmidt, H.G. (2001). The structure of computer anxiety: a six-factor model. Comput. Hum. Behav., 17, 35-49.
[2]LoBuono DL, Milovich M Jr. A Scoping Review of Nutrition Health for Older Adults: Does Technology Help? Nutrients. 2023; 15(20):4402. https://doi.org/10.3390/nu15204402