

Gathering views from brain injury survivors, carers and clinicians on the use of apps for remote spatial neglect rehabilitation – a precursor to the EyeFocus app development

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INTRODUCTION

Spatial neglect affects more than 1/3 of brain injury survivors even more than 1-year post-injury.

The COVID-19 pandemic poses significant challenges to the delivery of face-to-face neuropsychological rehabilitation, thus, further impacting the recovery of stroke survivors with spatial neglect. One of the potential solutions is to deliver rehabilitation remotely through mobile apps. However, mobile apps targeting spatial neglect are lacking.

The goal of this study was to explore end-users' perspectives about the use of apps for spatial neglect rehabilitation including our new app for tablets – EyeFocus. Engaging end-users in technology development process ensures that their needs are met, that the tech is acceptable and ultimately increases its adherence and efficacy (1).

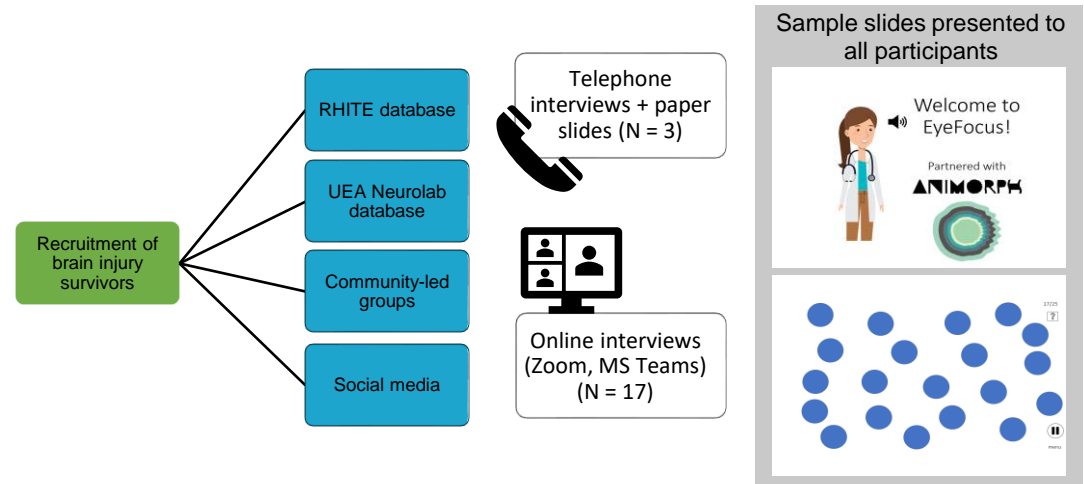
METHOD

20 participants (24-90; $M = 51.25$) took part in the study:

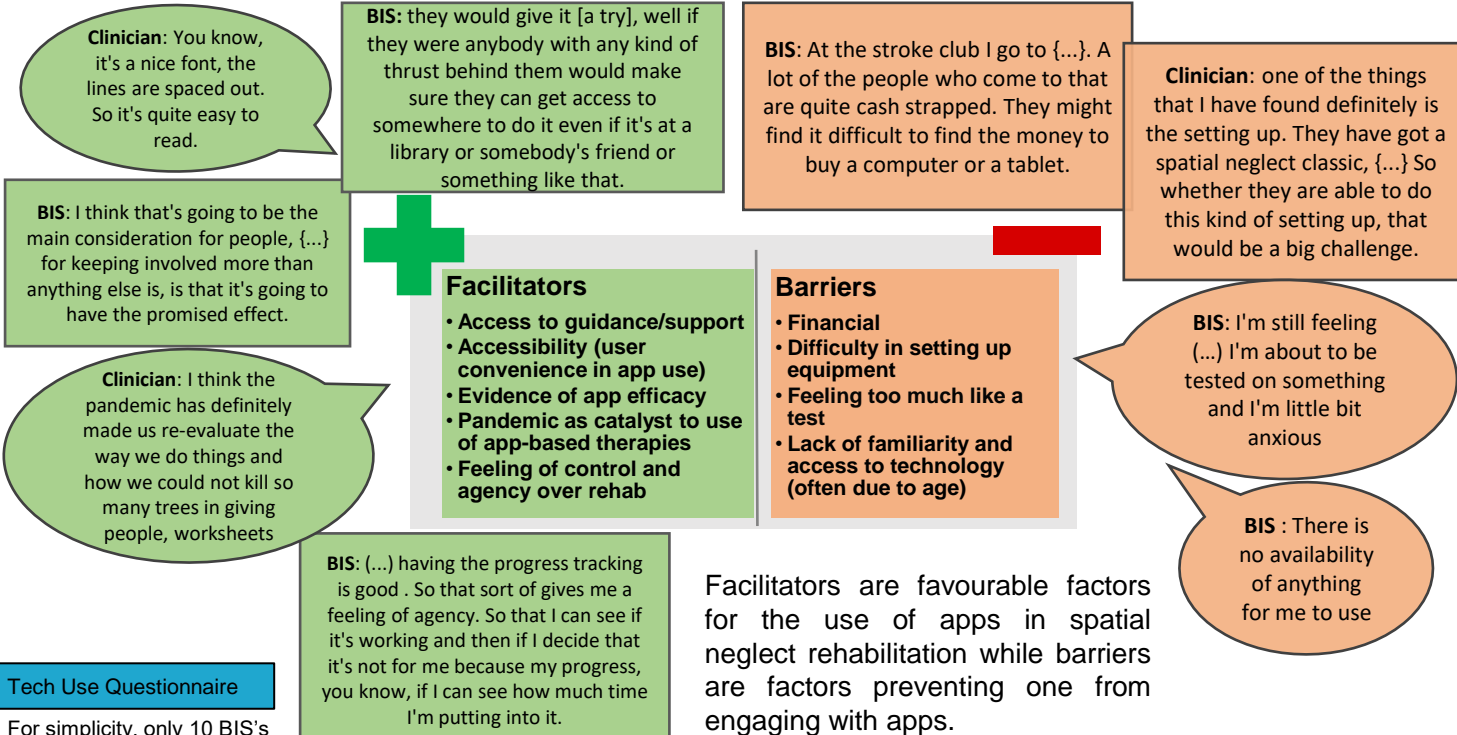
- 11 brain injury survivors (BIS) (7 stroke, 2 TBI, 1 surgery, 1 birth complications, $M_{age} = 58.4$, 8 males and 3 females),
- 8 clinicians ($M_{age} = 37$, 8 females)
- 1 carer (female).

Participants were recruited through different channels (see below). 19 participants filled out the Technology Use Questionnaire (2). Everyone participated in semi-structured interviews which took place via Zoom, Microsoft Teams or over the phone.

Thematic analysis (3) was used to identify barriers and facilitators of app use in spatial neglect rehabilitation. Additionally, the feedback was gathered to inform further stages of app development. Two researchers coded each interview and the third one acted as a reviewer.



PRELIMINARY RESULTS



Facilitators

- Access to guidance/support
- Accessibility (user convenience in app use)
- Evidence of app efficacy
- Pandemic as catalyst to use of app-based therapies
- Feeling of control and agency over rehab

Barriers

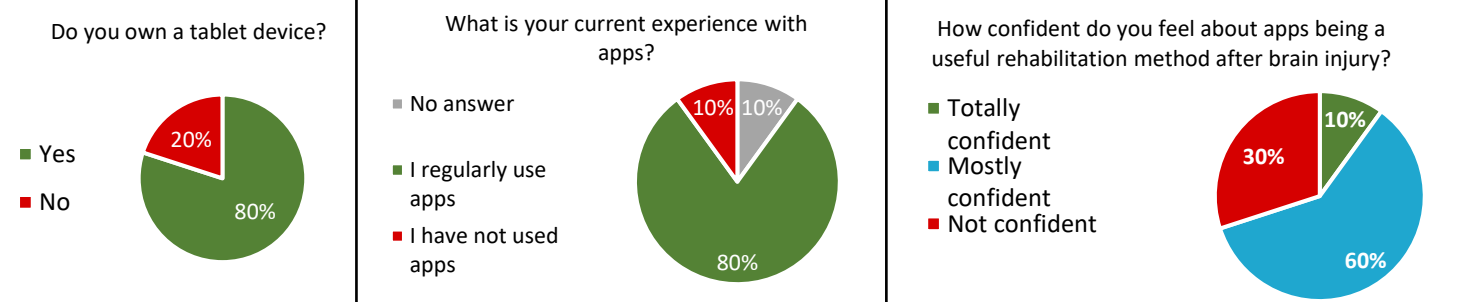
- Financial
- Difficulty in setting up equipment
- Feeling too much like a test
- Lack of familiarity and access to technology (often due to age)

Quotes:

- Clinician:** You know, it's a nice font, the lines are spaced out. So it's quite easy to read.
- BIS:** they would give it [a try], well if they were anybody with any kind of thrust behind them would make sure they can get access to somewhere to do it even if it's at a library or somebody's friend or something like that.
- BIS:** At the stroke club I go to {...}. A lot of the people who come to that are quite cash strapped. They might find it difficult to find the money to buy a computer or a tablet.
- Clinician:** one of the things that I have found definitely is the setting up. They have got a spatial neglect classic, {...} So whether they are able to do this kind of setting up, that would be a big challenge.
- BIS:** I think that's going to be the main consideration for people, {...} for keeping involved more than anything else is, is that it's going to have the promised effect.
- Clinician:** I think the pandemic has definitely made us re-evaluate the way we do things and how we could not kill so many trees in giving people, worksheets
- BIS:** (...) having the progress tracking is good. So that sort of gives me a feeling of agency. So that I can see if it's working and then if I decide that it's not for me because my progress, you know, if I can see how much time I'm putting into it.
- BIS:** I'm still feeling (...) I'm about to be tested on something and I'm little bit anxious
- BIS:** There is no availability of anything for me to use

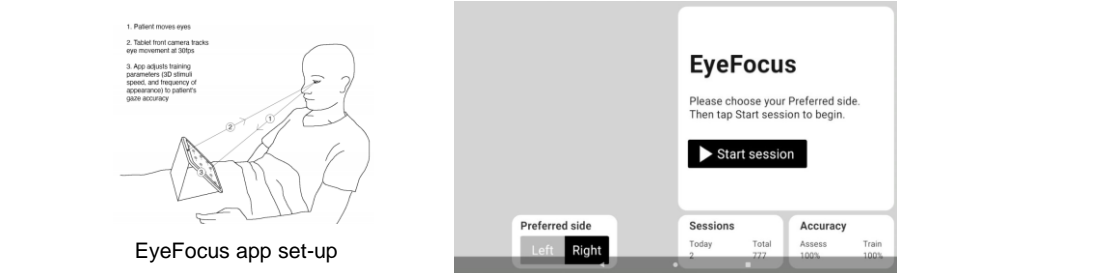
Tech Use Questionnaire

For simplicity, only 10 BIS's answers were collated



CONCLUSION

Feedback from interviewees has been implemented to develop EyeFocus. The app will employ a smooth pursuit training (4,5) using eye-tracking from tablet camera.



Scan the QR code for the EyeFocus demo



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